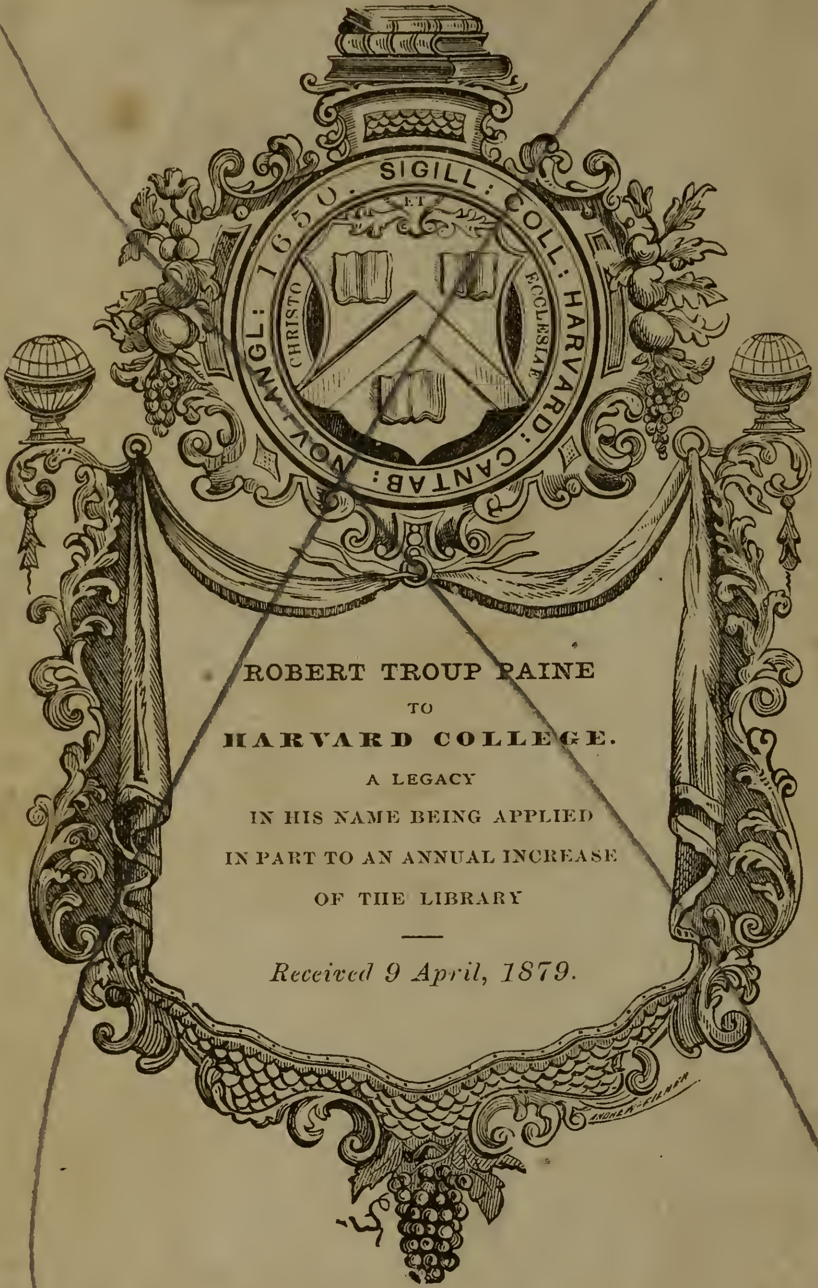

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THE

MONTHLY JOURNAL

OF

FOREIGN MEDICINE.

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VOL. III.

January to June, 1829.

PUBLISHED BY
E. LITTELL & BROTHER, CHESTNUT ST. PHILADELPHIA.
I. Ashmead & Co. Printers.
1829.

~~1879, April 9.~~
~~Paine Bequest.~~

THE

MONTHLY

JOURNAL OF FOREIGN MEDICINE.

JANUARY, 1829.

From the Edinburgh Medical and Surgical Journal.

OBSERVATIONS ON GOUT. By JAMES SANDERS, M. D., Edinburgh.

This is an attempt to give a pathognomonic conspectus of gout. Pathological it is not, since I merely wish to know *what the thing is*, postponing all the correlative subjects of diathesis, predisposition, causes, explanation, and treatment.

My materials are thus arranged:

1. Several cases are fully narrated, and to some of them is annexed the anatomical exposition of the changes that had, during their progress, been produced in the organization.
2. The different forms or stages of the disease.
3. Such remarks are interspersed as the particular circumstances suggested.
4. The inferences to which the whole seems undeviatingly to have conducted me.*

Case I.—Mr. ——, when about 17 years of age, had a severe fever, from which recovery was slow, but apparently complete, as he enjoyed good health till towards the end of 1817, when he complained of indigestion and uneasy feelings in different parts of his body. In 1818, came on acute pains in the inferior extremities, soon followed by swelling and deep erysipelatous redness involving the ankles and feet; these were accompanied with general excitement; and before the inferior extremities were well, he was seized with a sore throat, very distressing, painful, and obstinate. During this his head suffered much, chiefly from confusion in his ideas, and a sense of weight; his eyes became suffused and his vision impaired. There soon supervened a numbness and deficiency of power in the right side, but the right arm annoyed him most, as it obeyed the will very tardily; and he could not hold the pen.

After he became convalescent, the affections of the head, eyes, and right side remained; his memory was deficient; his mind uneasy, dissatisfied, and apprehensive; he was occasionally qualmish, but upon the whole his appetite and digestion were good. This chronic state was sometimes interrupted by the sudden accession of acute headach, throbbing of the temporal arteries, and turgescence of the vessels of the *tunicæ albugineæ*. Practically neither the sanguiferous nor the digestive organs had been spared, but he thought himself worse after every bleeding, whether general or topical; nor did the cathartics succeed better.

In the autumn of 1825, for the rigid antiphlogistic plan the following was substituted. Night and morning the head was to be bathed with cold water, containing an equal portion of spirits and vinegar, and immediately after well rubbed with a soft dry sponge or towel; then also stimulating liniments were to be rubbed all along the spine, and on the right superior extremity from the scapula to the points of the fingers. His diet to be gently nutritious, exercise in the open air to be taken cautiously, but only in good weather; nor were the natural evacuations to be neglected. If, however, at any time his head should be attacked as above described, his orders were to confine himself to his room, and use the antiphlogistic regimen till the exacerbation subsided, and no longer.

Now and even after, his pulsations were somewhat unequal, never almost in number above thirty-six per minute, and even just after walking, rarely above forty. The heart rolled heavily, but beat synchronously with the arteries; his respirations were from fourteen to twenty.

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* The following applications occur which seem to require definition:

Encephalon.—All that is contained within the cranium.

Spinal Cord.—The spinal marrow with its membranes or tunics.

Medullary Elongation includes *crura cerebri*, *tuber annulare*, *medulla oblongata*, and *medulla spinalis*.

Centre of the Nervous System or Nervous Centre, means that continuous mass of nervous substance which occupies the osseous cavities of the cranium and spine.

Cerebellic Cavity.—That portion of the skull which contains the cerebellum, and part of the medullary elongation.

Arthritis.—Affection of the joints as connected with and depending on gout.

Arthritic.—Liable to, belonging to, or troubled with, arthritis.

It is easier to give advice than to have it followed. He seldom neglected the frictions on the right arm, and he gained the power of it so far that he could write easily. He used the tonics for several weeks, and found his health and vigour to such a degree restored, that he considered himself freed from all restraint. The consequence was, that his head soon troubled him as formerly. He recurred to low diet and purgatives, and persevered till a feeling of stupor became permanent, and his general system was nearly as much enfeebled as ever it had been. Conscious that he was rapidly sinking, he, of his own accord, resumed the tonic course, and again his health recruited wonderfully.

This account I had from the patient, of whom I saw little till September, 1826, when his general appearance was remarkably improved; but he complained of indigestion, and his eyes were yellow, which symptoms readily yielded to pills containing a small share of calomel, though they were immediately succeeded by transient returns of sickness at stomach, and shifting pains in the loins and extremities. I told him that I now suspected gout more strongly than ever, and entreated him to recommence and go on with the lavations and frictions. He did so, though not assiduously. On the 22d October following, he had an attack of gout in the right knee, ankle, and great toe. Here it continued for a few days, and passed to the left inferior extremity. This paroxysm confined him about eight days. On November 5, he had another bilious disorder followed by gout in the feet. From this time he complained frequently of pains in his feet; and during the spring of 1827, he was twice attacked with regular podagra. While his feet were affected, his general feelings were agreeable to him; his mind was comparatively cheerful, and his body active; he even indulged the hope of ultimate recovery. His pulse, however, never improved; it continued always heavy and slow. While under the tonic treatment, the painful affection of the head never occurred. He had once or twice a slight throbbing only of the temporal arteries.

This gentleman was often cautioned against damp weather, or getting his feet damp or cold, particularly when he felt pain in them. He was even assured that he might die suddenly from rash exposure, or any unguarded exertion of mind or body; but either morbid apathy or natural incredulity prevailed, for he proved quite heedless and uncontrollable.

Early in October he had a smart fit of podagra, which kept him to his sofa nearly a fortnight. The swellings all subsided, but his toes were still uneasy. In this state on the 20th, a cold wet day, he went upon some business, and sat in a cold room two hours or more; came home, and fell down seemingly lifeless. I arrived soon after, and his senses were returning. In a few days he had another fit of the same kind. He was bled at the arm, came to himself again, though not with symptoms equally favourable as on the former occasion. Alarming prostration ensued; his mind was bewildered; breathing oppressed; pulsations hardly perceptible at the temples and wrists, and they seemed to have quite abandoned the inferior extremities. The whole surface of the body was cold and clammy, and deadly so his hands and feet.

A cap blister was put on the head, sinapisms on the breast, and on the extremities from the elbows and knees downwards. Antispasmodics were administered internally. In a few hours the arteries beat distinctly about twenty-five times per minute at the temples and wrists, and moderate heat was restored to the superior half of the body; but the mustard was kept to the inferior extremities full twenty-four hours before rubescence was induced, and then heat and pulsation returned together. After this escape he recovered considerably, and was as careless of himself as ever.

In the beginning of January, 1828, he encountered his last attack of gout, which seized the right, and in two days after the left foot. His head became easy, his mind lively; the beats of the arteries rose from 36 to 38 and 42 per minute; the erysipelatous swelling gradually increased, was very painful on the 5th and 6th days, and then gradually declined. On the evening of the 11th the feet, free from pain, were slightly œdematous. He said that he had had some vertigo in the forenoon, which was entirely removed by taking food. His pulsations were now about 50, weak and irregular. I replied that I neither liked the vertigo before dinner, nor the total absence of pain in his feet, and advised him to have mustard applied to them and to his head. After I left him he amused himself for more than two hours, got up, and walked about with uncommon ease and spirits. "I never," said he, "felt myself better. I think I may enjoy myself this one night, and to-morrow I will use the Doctor's prescriptions." At nine next morning his daughter asked him how he had passed the night. He answered, "Very well, indeed." She left him, and in three hours after he was found on the floor by the side of his bed, dead.

No noise of falling had been heard; no sign of convulsion, or spasm, of bruise, or injury, was discovered on his body. He lay at full length with his face downwards; his countenance was blue and swollen; but these appearances went off when he was laid on his back. From every circumstance there could be little doubt that life had been extinct at least two hours.

Dissection.—Twenty-four hours after death, 13th January, 1828.

General appearance.—Plump, and rather tending to obesity.

Head.—Skull dense, of unequal thickness from the temporal bones backwards, grooved internally in the tract of the meningeal arteries, strongly adhering round the corona to the dura mater. Serous and gelatinous effusion on all the surfaces of the cerebrum and cerebellum. When the encephalon was removed, serum and blood flowed through the foramen magnum, and the blood continued to flow copiously, as is usual in such cases. Cerebrum, cerebellum, tuber annulare, and medulla oblongata, all much softened. The basilar artery was enlarged, exhibiting progressive ossification, which appearance pervaded the circle of Willis, and the vessels in the fissuræ Silvii; all the other vascular tubes seemed attenuated, soft, and fragile. There were red patches of small turgid vessels on the medulla oblongata and corpora quadrigemina, on the roots of the second, fourth, eighth, and ninth nerves. The optic nerves were smaller than usual, and in the third ventricle there was partial cohesion of the thalami; all the ventricles were full of water. The plexus choroides in different parts imitated hydatids, from limpid serum distending its cellular membrane. On the interior surface of the lateral ventricles some blood-vessels were conspicuously ramified, as is common when water is contained in those cavities; but no distention any where of the larger vessels, and the mass of the brain was as free from any vestige of redness as if the blood had been withdrawn, and the heart had become unable to furnish any supply. In each hemisphere, from about the centre of the middle lobes forwards, were small bullæ or cysts full of a yellowish fluid, seven of these were counted, four on the one side and three on the other; the cineritious substance surrounding each bulla was morbidly dark and losing its consistency. Though both hemispheres were diseased, yet the right had suffered more than the other.

Spinal canal.—Dura mater in general sound. As soon as it was slit open, turgid vessels of a vermilion colour were seen on the cervical and lumbar portions of the spinal marrow, and some solitary red vessels from these diverging along the nervous cords. On the arachnoid coat in the lumbar part appeared minute ossifications. The substance of the spinal cord, like that of the brain, was very soft and nearly bloodless. The sinus venosi of the canal were full of dark blood,—an occurrence presented in almost every instance of sudden death.

Thorax.—Lungs sound; strong cohesions on the right side between the pleuræ. Heart a little enlarged, its cavities full of dark fluid blood; the parietes of its right ventricle were thinner, and of its left, thicker than they should have been.

Abdomen.—Spleen a little too large; left kidney a little smaller than the right, both too dark in their cortical substance, and the pelvis of each contained a yellowish clammy fluid. *Cætera sana.*

Remarks.—The history and the anatomical appearances just detailed give a nosological view so much the more interesting, that the case is almost a complete specimen of this genus. The malady exhibited itself first in the inferior extremities and afterwards in the head, scarcely sparing in its ascent the functions of any intervening part. An instructive contrast is furnished when the arthritic die of some superinduced or incidental misfortune; in them are disclosed the primary limits of gout, as if accurately circumscribed. Where the inferior extremities are chiefly attacked, the lumbar, but where the superior extremities, the cervical, portion of the spinal cord shows the peculiar condition connected with the paroxysms.

Convinced by ocular demonstration, it is many years since I taught, that the centre of the nervous system is mainly concerned in arthritis, and in a great number of other corporeal calamities; but in none is the dependence of external upon internal motions more clearly evinced.

It seems not improper in this place to admonish the practitioner, that opening a body, and seeing that one or more of the viscera have suffered, affords little information, and no satisfaction. To detect the origin, to trace the sequence, to perceive how any one peccant organ influences the rest, to discriminate among conflicting results, to have a mental retrospect, to devise from concentrated intelligence, the means of counteracting the causes and of restoring health, is the labour and the delight of the pathologist; and he who has not undertaken that labour and felt this delight, were he as profound in general philosophy as Bacon, in astronomy as Newton, in ancient literature as Porson; had he read all the books from the days of the mythological Hermes to those of our modern visionaries, is nevertheless an empiric in medicine.

It was suggested that the example already given comprises what more or less occurs, wherever chronic gout has prevailed; nor will this opinion be invalidated by the cases next to be related, from which it also appears, that by whatever means, specific or dogmatic, according to whatever method, be it of Sydenham, Cullen, or Brown, gout is treated, it almost with equal pace proceeds to the same kind of termination.

Case II.—A gentleman, about 64, of strumous habit, rather tall, and inclining to obesity, had, the last third part of his life I believe, been afflicted with gout, and had long taken, by the advice of his medical attendant, the *eau médicinale* very freely during the paroxysms. This drug induced sweating and copious dejections, followed by cessation of pain. He was liable to indigestion, accumulation of bile, and palpitation, from which last symptom it was inferred that his heart was diseased, and the aortic valves ossified. I first saw him professionally in the spring of 1814. He was despondent, complaining of vertigo, and even some degree of stupor; the joints of his extremities were stiff, and his voluntary movements all feeble and languid. He had not for some time been disturbed by the palpitation; the pulsations were now synchronous at the heart, temples, wrists, and ankles, in number between 60 and 70 per minute; though much annoyed with flatulency, his appetite was tolerably good; his respiration was seldom uneasy, and he could lie on either side; his abdomen was tumid, without any perceptible fluctuation; his urine in the usual quantity, and bowels regular, or readily answering to gentle aperients.

Tonic bitters and stimulating frictions were prescribed, and he was advised to take no more of the *eau médicinale.* His feelings were in a short time alleviated, his mind enlivened, and all his actions more at his command; but on the first recurrence of pain in his feet he could not, and afterwards would not, abstain from the *eau médicinale*. About the beginning of September, 1824, he seemed feverish and unhappy. He gave no account of his feelings more than that "he was not as he should be." On the morning of the 11th, he complained that he had passed a restless night, and that his head was confused, adding, that "he was tired of all medical interference." That day he transacted his usual business; and next morning, being much better as he thought, he congratulated himself "on having out-witted the Doctor." He went about three quarters of a mile to a tax-office, and while paying his taxes, fell in an instant dead by the side of the counter.

Body examined 13th September.—*Head.*—Skull thick, grooved internally in the tract of the meningeal vessels. Serous effusion over all the surfaces of the brain, and surrounding the medulla oblongata. From two to three ounces of clear fluid in the ventricles; the longitudinal, lateral, and all the minor sinuses full of dark blood; the vessels also on the cerebrum and cerebellum, the vena Galeni and its branches, so far as they could be traced, the basilar vessels, and those of the circles of Willis and Ridley, all turgid with dark blood. Patches of minute vessels about the nates and testes, and on the medulla oblongata, of a purple or deep red colour. The choroid plexus partly purple and partly blanched, and its cellular tissue distended with serum. The masses of the cerebrum and cerebellum were bloodless, and so soft that their structure would not admit of distinct demonstration. When the encephalon was removed, fully a quart of dark fluid blood escaped through the foramen magnum.

Spine.—The internal substance of the vertebræ was of a dark purple from vascularity; the sinus venosi of the canal were dark and turgid; sero-gelatinous deposition surrounding the dura mater, most copious in the lumbar portion; the dura mater of a dull brown colour along the cervix and loins; slight serous effusion within the dura mater. The anterior and posterior vessels of the spinal marrow very much distended and rather dark, and such distention occupied most of the surface of the spinal marrow, about the middle of the cervix, and from the ninth dorsal vertebræ downwards. Many turgid vessels were likewise continued along the nervous cords, particularly of the cervical portion, and of the cauda equina. The substance of the spinal marrow was much softened, and here and there variegated with real vessels.

Thorax.—A small quantity of serum in each cavity, as also in the pericardium. The heart and descending cavæ nearly empty. Blood fluid, but there were small coagula in the auricles.

Abdomen.—Some serum effused here also. Liver a little increased in size, and of an irregular yellow colour; its internal structure resembled granite, and was unequally indurated. Spleen too exceeded its usual dimensions, and seemed as if composed of grumous blood. Prostate gland considerably enlarged. *Cætera sana.*

Case III.—I knew a physician who prescribed the *eau médicinale* freely, giving as his reason one most cogent with the patient, "that he himself derived the greatest benefit from it." He no doubt took it as liberally as he prescribed it; nor was he averse from the assistance of opiates, or the exhilaration of strong liquors, but all the misery of atonic gout at length overwhelmed him.

Case IV.—In the spring of 1812, I was called to a gentleman, about 45 years of age, suffering the most excruciating torture from gout in both feet, and many years he had been visited by such attacks and of long duration, till some one advised him to try the *eau médicinale.* This drug, taken according to the printed direction, astonished him; it excited commotion in the stomach and bowels, with copious perspiration, bilious dejection, and inexpressible relief, followed, however, for some time by great languor and debility. On this and another occasion the *eau médicinale* was dispensed with, but he complained that relief was not so speedily obtained, though he confessed that he was neither so exhausted nor so infirm afterwards. He was of a convivial disposition; rich viands and generous wines were the gods of his idolatry. For a year, however, or a little more, though he could not in extreme pain resist the specific, yet he adhered to a moderate dietetic regulation, and his paroxysms were fewer and milder, but he could no longer endure this restriction. He declared that "he would rather die than have life prolonged upon such terms." The paroxysms returned more frequently and more severely, if possible, than ever. From this time the patient ministered to himself. By the year 1815 the paroxysms were nearly subdued, and so were the faculties of his mind and body. He understood what was said to him, and distinguished one person from another, so far his intellect was sound. His vision was much impaired, and so were his voluntary movements. In this sad plight he lingered two years more, and then died suddenly.

Case V.—Mr. ————, an innkeeper, and *bon vivant,* a man of the kindest disposition, but irascible, had been visited for many years at the usual seasons by gout, chiefly in the inferior, but sometimes in the superior extremities also. Anorexia, lumbago, and piles, were almost his daily attendants. He had borne vicissitudes like a philosopher; he enjoyed himself when he could, and often indulged more than he ought to have done.

When gout threatened his extremities, he always relied on the *eau médicinale.* It never failed to afford him speedy relief, and to shorten the paroxysm. I told him in 1820, that the use of this supposed antidote would, in no long time, bring on apoplexy or palsy. Even then indeed his limbs were enfeebled, and his speech and vision impaired. He complained of his flaccid virility; for, said he, "I am not above 60!" The warning which I gave him, made some impression on his mind. He endeavoured for a while to live more moderately, and never again took the specific so profusely; but still when in great agony he applied to it.

Early in the morning of 24th July, 1824, he became suddenly senseless, speechless, motionless. The previous night he had made copious libations to Bacchus, and an unusually brilliant display in his own kind of oratory. He had never in his life drunk more, vociferated more, been more happy, or carried to bed more completely overwhelmed with sopor.

When I arrived I learned from his eyes that he knew and heard me. He made some vain efforts to speak; his breathing was heavy and slow; his pulse a little accelerated, irregular, and feeble. The surface was in general cool, the extremities cold, and on his forehead a clammy sweat. Aware of his habits, I ordered him a little brandy; he took it, showing no palsy in the willing organs of deglutition. In about half an hour Mr. Liston came to my assistance.

The first day his treatment internally was rather antiphlogistic; while externally friction was assiduously employed. After this he was allowed wine moderately, and nutritious food in a liquid form, to which in a day or two tonic bitters were added. Gradually the voluntary muscles regained their capability, and his speech improved. He began to complain of severe pains all along his extremities; but we made no change in our prescriptions. In about ten days the gout appeared in tremendous force from the elbows and knees downwards. His mind resumed its wonted activity, and his articulation or pronunciation became much as it was before the apoplectic attack. The limbs, where affected, continued red, swelled and painful for several weeks; and on the decline of these symptoms he was ordered a little solid food once or twice a-day, according to his appetite, and a little brandy, particularly when he felt uneasy at stomach; and all the time he had anodynes in the evening. Now locomotion was restored, though not so completely to the right side; and of the right hand he had still no use. He lived by rule; nor were the frictions and occasional application of sinapisms ever omitted. In two months from the attack he was brought to temperance, air, and exercise in the country. Having regained health and vigour, he returned to town, business, and old habits. He continued, however, tolerably well till September 25, 1825, when he got mortally intoxicated. Next day he purged himself severely by taking saline laxatives; and on the third day supervened the most complete atony. It was not palsy, but almost total inability to speak or to move. His pulsations were pretty regular, about 80 per minute; heat of skin natural. He could still take food, and mild aperients readily operated. He knew all those about him, and seemed quite sensible of his situation. All medical efforts were in vain. He died on the 22d October.

Remarks.—It happens that in these cases the *eau médicinale* holds a conspicuous place; but all the specifics for this disease hitherto extolled, though differing in other respects, resemble one another in this, that they alleviate and subdue the attacks of the regular, while they accelerate the transition into the atonic gout. In confirmation I might appeal to the records of medicine; but I trust that one or two instances more will answer my purpose.

About the middle of the last century a prescription known from, and probably before the time of Galen, was introduced into England by the Duke of Portland, and hence obtained the name of the Portland Powder. Its chief ingredients were the Aristolochia rotunda and gentian root. Dr. Cullen in his practice of physic says, "In every instance which I have known of its exhibition for the length of time prescribed, the persons who had taken it were indeed afterwards free from any inflammatory affection of the joints, but they were affected with many symptoms of the atonic gout, and all, soon after finishing their course of the medicine, have been attacked with apoplexy, asthma, or dropsy, which proved fatal."

The author of the theory of excitability tells us somewhere, that the relief afforded him by a large dose of opium, taken when he suffered the most exquisite agony of gout, forced upon his observation not only the stimulating properties and paramount utility of that substance, but inspired him with the idea of his peculiar system! What the results were of his practice his own case will best show. *Case* VI.—Dr. Brown was of an ardent disposition, and his genius of no ordinary mould. He had many admirers; but vanity and improvidence involved him in difficulties inextricable. Conviviality, inebriation, adversity, and gout, occupied one-half of his life. Whenever he dreaded or determined to subdue a paroxysm, whenever, from any cause, wretched, he took immense doses of laudanum. "Nemo," dixit ille, "opiato sumpto sibi mortem conscivit, aut unquam conscisset."

On the 6th October, 1788, at his house in Golden Square, London, he delivered a lecture with much animation and vehemence. In the after part of the day his face, eyes, and eyelids were observed to be turgid, and his cheeks unusually flushed. In the evening he swallowed a copious draught of laudanum. Between five and six o'clock next morning he rose; walked across his apartment; saw it was too early to rise; returned to bed, fell into an apoplectic sopor, and expired in a few hours.*

Remarks.—Novel doctrines upon an emergency will be adopted in practice even by their most strenuous opponents.

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* Life of Dr. Brown, by his son, William Cullen Brown, M. D. p. 144, &c. London, 1814.

Case VII.—About twenty-four years ago an elderly gentleman, addicted to rich viands, potent liquids, and the gout, was seized apoplectically. Two eminent physicians, declared enemies of Brunonianism, attended. Sorely perplexed, that, in defiance of depletions and prohibitions, bad run rapidly into worse, they ordered that he should have glasses of brandy repeated at very short intervals. When they met again, finding the patient surprisingly better, they prescribed an opiate, congratulated the family, and departed. He did not neglect the brandy; and next morning he was as lethargic as ever. They regretted the stimulation, bled him profusely, and enjoined diluents. Once more his mental faculties revived,—but to cease for ever in a few hours.

I recollect well the conversation which ensued between the learned practitioners. "Is it not strange," said the one, "that means so opposite in their nature should, at least for a short time, have produced the same effects?"—"Have I not often told you," replied the other, "that our art, except in a few simple instances, is altogether a deception, even to ourselves. We very seldom know either what we are doing, or what we ought to do." I believe, however, that morbid anatomy has, within these few years, done much to remove the opprobrium then so just and so candidly admitted. The specious generalizations which ruled medicine, overruled intellect, benumbed the practitioner, and retarded the science. The British pathologists are delivering themselves from this thraldom, while those on the Continent of Europe, with all their boasted advantages, are forging for themselves anew the chains of hypothesis. Dædalus, as the poets feigned, constructed a labyrinth in which he and his offspring were imprisoned. This is an ingenious allegory, most aptly representing the infancy of knowledge.

Case VIII.—Twelve years ago I was called to an honourable baronet, about 65 years of age. Seventeen or eighteen months previous, apoplexy had come suddenly upon him. Under copious venesection, &c. the head was relieved, but paralysis of the right side and its extremities remained. This gentleman had been subject to severe paroxysms of gout and politics for many years. When I saw him his inferior extremities were enormously swelled with water, nor was he quite free from hydrothorax and ascites. I remarked to him that his arteries beat very unequally. "That," answered he, "gives me no concern. My pulse has been unequal and intermitting as long as I can remember. Dr. Monro *Secundus* warned me twenty years ago that my heart was diseased, and gave me many precautions which I never attended to."—"But my health," continued he, "is improving daily, though slowly. I am assured that the swellings, though they are increasing, will depart in proportion as my strength returns; and even now I am able to move a few paces in my chamber with the help of my servant. What I wish to consult you about is my little finger here; it is so contracted that I can make no use of it in attempting to play on the flute." In reply, Your health, sir, does not appear to me so safe as you imagine. Telling you that returning strength will put away the swellings, is just the old proverb, "that you will get well as you grow better." In my opinion, two legs are of much more value than one little finger. The same means that will remove this dropsy will at the same time invigorate your general system; and this is the best method even of affecting your finger, though I would not flatter you respecting it; for such contractions are seldom, if ever, entirely removed.

We moderated the rigour of abstinence; commenced with diuretics, tonics, and frictions; in a few weeks the swellings had disappeared, and he could walk without assistance; all was promising, except the intractable finger. While he thought himself doing well, some one represented to him that he was recovering too rapidly, and in consequence he resumed his starving course, and went to the country. In a short time, however, his dropsy returned, and at last apoplexy again laid him prostrate. I was sent for, but two other medical gentlemen were there before me, and had determined to abstract blood profusely from the temporal arteries. I dissented for these reasons: that the preceding state of his health, his atonic gout, his serous effusions rendered it probable, that even now effusion had occurred within the cranium; and if it had not, such abstraction would insure it, and deprive the patient of any chance that he might have.

Forty ounces of blood were taken; great relief followed; sanguine hopes were indulged;—in eight days he died.

Dissection.—The brain was deluged with water, all the ventricles very much distended, and the whole cerebral mass might be said to be deliquescent. There were such gelatinous depositions, and unequal vascular turgescence, as are so often observed deluding the tyro in pathological researches with the *ignis fatuus inflammationis.*

The heart was hypertrophic, the valves of the aorta partly, and the orifices of the coronary arteries completely ossified; the interior surface of the aorta also exhibited ossific formations in different stages.

Nothing else remarkable.

The spinal cord was not inspected.

Mr. ——— about 70 years of age, of middle size, short neck and corpulent, lived well, was naturally active in mind and body, took much exercise, and generally enjoyed vigorous health; though latterly he was dyspeptic, and troubled with what were called bilious headachs.

On Wednesday, 3d December, 1817, he had entertained a party at dinner, and in the evening, while playing a rubber at whist, he was seized with a shivering fit, which obliged him to go to bed. He complained of pain in his right foot and leg, and in the morning these parts were swelled, and invested with a rosy redness. Slight fever was present. On the supposition of inflammatory erysipelas he had cathartics and diluents, but during eight days obtaining no alleviation, he became impatient. A celebrated physician was called in, who commanded venesection to be performed. On the morning of the 10th about 15 oz. only were abstracted; prostration of strength ensued, pain ceased, but in the evening gangrene occupied the limb, torpor the head! On the 12th I saw him. He lay stretched on his back at full length in bed without pain, and incapable of fear. From about four inches below the knee the limb was one black, tumid mass, the great toe enormously swelled, and covered with unseemly vesicles. His pulse was hardly perceptible; his respiration slow and calm. Though stupified, when spoken to he answered distinctly. His eyeballs were a little tumid, and the eyes had a leaden, heavy, sluggish motion, when he directed them towards any object.

I told his family that no hope remained, and that medical interference could avail nothing. On Sunday the 14th, at 3 P. M. he ceased to live.

Remarks.—It appears that gout of every form, and under every variety of treatment, proceeds more or less steadily through a dedeterminate course. It may be a question, whether, if left to itself, the phenomena would still be the same? I think this may be answered in the affirmative. From Sydenham to Cullen the *methodus medendi* was such, that it could neither subvert the natural, nor counteract the superinduced tendencies of the animal economy. Now that long period has furnished no instances in which the arthritis did not pass into the third stage, that of atonic or asthenic gout, nor any in which the disease, whether regular or irregular, did not exhaust the centre of the nervous system.

THE DIFFERENT FORMS AND STAGES OF GOUT.

Hitherto our attention has been principally directed to that form generally called the atonic, which in my opinion should rather be considered the third stage of gout. It bears the same relation to the regular arthritis that passive does to active inflammation, or chronic to acute ophthalmia.

It is of great importance also to be aware, that gout often creeps on insidiously; sometimes imitating the atonic form, and not unfrequently so equivocal are its symptoms, that they are apt to deceive even the most skilful. No organ is so liable perhaps to its invasion as the stomach,—indigestion, acidity, and uneasiness are complained of, coming on and going off without any assignable cause; and not prevented or removed by endeavours to improve the diet, regulate the bowels, or strengthen the digestive organs. The liver is also accused, and bilious evacuations are followed by almost instant alleviation. Pains fleeting or fixed in the ribs and loins; sediments in the urine, amorphous or crystallized; the heart palpitates; the head is uneasy; the bowels are variable; nor in those particularly of 40 years and upwards, must we overlook the repeated occurrence of dysuria. What are here specified are the accidents which arise either separately or conjointly; but it were equally vain to attempt the description of the transitions between the external and internal parts, as to enumerate all the other multiform, erratic, and abnormous occurrences. Such intruders often vanish as if by enchantment; the person relieved becomes at once cheerful and happy, while those about him look upon these alternations as equally groundless and imaginary.

This uncertain state may continue for months or years, when at length gout appears in what is supposed to be its generic complement; and then, notwithstanding the tortures of the paroxysm, the load of misery that is thrown off is astonishing. The patient now knows his disease, and flatters himself that nature has supplied the remedy; the fit introduces months of good health, and he welcomes the next vernal or autumnal recurrence as the pledge of security and safety, little dreaming that the paroxysms will return at shortening intervals; that they will involve all the extremities, thickening, stiffening, and disabling every joint; and that, abating in their fury, they will leave the very fountain of life irretrievably deteriorated, thus ushering in the complete atonic gout, the fatal termination of which, though often accelerated, has never yet been averted.

It is not to be inferred from this sketch that the preparatory or premonitory efforts of gout always, by ultroneous concentration, declare their nature in the extremities. It is impossible indeed to predict where the formidable assault is to be made. I have seen the chest seized as if with acute pleuritis; the heart, carditis; the abdomen, peritonitis; the stomach, gastritis; the throat, cynanche, or dysphagia; but none of these so frequently nor so variously as the head; and countless are the instances of sudden death from the impetus against the brain. What happens in the feet we have all witnessed. Now let us reflect what must be the consequence of a sudden yielding, filling, and distention of the vessels within the cranium! *Procumbit humi bos.* It is, people say, a great hardship, for any one to have died without assistance. Be that as it may, I have more than once had reason to ascribe the preservation of life to this circumstance, that the paroxysm subsided before the physician arrived. Since Stahl, the controversies and disputations have been resuscitated about trusting to the powers of nature, which, in modern Gallic phrase, is the *Medicine of Expectation.* But true it is, that he who does study when and when not to wait, is more dangerous to mankind than disease itself.

The fact that gout often proves fatal without having assumed any decisive character is not peculiar, for the same thing is observed in other diseases. How many have there been cut off in the preparatory fever of small-pox? The disposition, indeed, to the definite course, is so evident, that those circumstances and accidents, which so often interrupt it, without invalidating the rule, demand serious investigation.

Nor in this disease, which is as capricious as hysteria itself, are we always to expect a well-marked or fixed attack upon any of the organs; and as little are we to believe, that, should an attack be made, it must be sthenic or inflammatory. On the contrary, the head may become affected with dulness or stupor; the heart with languor and irregularity; the respiration may become heavy or asthmatical; the functions of the abdominal viscera disturbed and feeble; and the extremities may be struck with paralytic debility.

And this sudden loss of power, whether partial or general, is not peculiar to gout. I have seen the same thing in the first stage of the common continued fever. It is well, however, when reaction supervenes, and the local affections change from the torpid to the acute; but torpor succeeding activity is always unfavourable.

The premonitory symptoms and occurrences are here the more solicitously dwelt upon, that they are the most frequently mistaken; while it is during their prevalence alone that our art can be most usefully and efficiently exerted. But if the real atonic state, which I afterwards call the subsecutive stage, has been established, our duty is limited to the protracting of life and the alleviating of misery.

Sauvages affirmed that there was but one species of gout, and Cullen is inclined to agree with him, though he thinks that the following varieties deserve attention, viz. the regular, the atonic, the retrograde, and the misplaced or aberrent. According to him, the sign of the regular form of gout is " pretty smart inflammation of the joints, which continues for some days, and gradually recedes, with swelling, pruritus, and desquamation of the affected part." The other three appellations he includes under the general epithet irregular; and so he might, for they designate no distinct varieties, but merely symptoms which occur indiscriminately in all the unsettled forms of this disease. As was the custom of the age in which he lived, he attended more to what had been written than to what nature dictated,—to disease more as a matter of history than of daily observation; consequently he perceived no difference of indication between those symptoms which preceded inflammatory local action and those which succeeded. When what he called the regular form was not assumed, he pronounced the disease to be irregular, and then treated it more or less as of the atonic description; nor was his use of stimulants, particularly of brandy, less liberal than that of his antagonist, Brown. Disorder of function and change of organization made no difference in his estimation. On such views no appropriate scheme of practice could be formed, and the mischief done must have been incalculable.

The account of gout just given seems to expose three states or stages, which may be called the preparatory, the regular, and the subsecutive. The first and third, though mightily different from, yet resemble one another in their delusive and wandering habits; but the second, though not exempt from shiftings and transitions, is upon the whole distinguished by its uniformity, as well as by its effects upon the joints.

We should reasonably suppose that the parts primarily disturbed would be differently affected in each of these states.

The preparatory cannot be connected with any great or permanent lesion of structure, since it terminates in the regular,—a complete paroxysm of which shall be followed for months, or even years, by the full enjoyment of health. Nor can any ordinary fit of the regular have produced great or extensive lesion, since, in consequence of it, all the functions or faculties are renovated. But when the paroxysms lengthen and recur at shortening intervals—when they vacillate in degree and mode—when there is shifting from one part or organ to another, external or internal—when the brain, the heart, the lungs, the liver, the stomach, the bowels, the kidneys, separately or simultaneously evince disorder—when cramps, spasms, and pains, with stiffened joints and general asthenia, prevail—when vertigo confuses, and gloominess and timidity take possession of the mind—when the fingers or toes are contracted or powerless—when vision and speech are impaired—when a leg or an arm is paralysed—when fainting or apoplexy overwhelms,—without any claim to superior sagacity, you may suspect that more deep impressions have been made than during either of the preceding stages.

Conversant in structural deviations, use your scalpel, and your suspicions will be converted into certainty. When in the first, or early in the second stage, life has been intercepted by seizure within the cranium, the apoplexy is sanguineous; there you see red turgid vessels, red puncta, the nervous centre firm and its structure sound; from the corpora quadrigemina to the cauda equina, red turgid vessels wandering here and there along the nervous cords and filaments, and the serum effused very scanty. When in the advanced second stage the apoplexy is less decidedly sthenic, the internal plate of the skull is more deeply grooved; the turgid vessels are generally of a darker hue; the nervous centre is less firm, and red puncta fewer; the quantity of serum is pretty copious in the ventricles, and in the osseous cavities containing the cerebellum and spinal cord. If the respiration has been asthmatical, turgid vessels are crowded on the medulla oblongata, and extended along the nervous cords and filaments. The same appearances occupy the cervical portion of the spinal marrow with its nerves, if the superior extremities; and the lumbar portion with its nerves, if the inferior extremities, have been frequently or recently subjected to the arthritic domination.

When in the third stage the inner plate of the skull is very deeply groved, the meningeal vessels are turgid; the dura mater is partially thickened; strong adhesions are found between it and the arachnoid tunic, as also between this, the pia mater, and cerebral substance; serous effusion in great quantity on all the surfaces of the cerebrum and cerebellum, as also in the ventricles and cerebellic cavity. The superficial vessels are irregularly turgid; the vascular tubes are either flaccid and attenuated, or partially rigid and thickened, and frequently there is compression from coagulated or even fluid blood; the cerebral substance is bloodless, has been mollescent, and in many places degenerating. In the hemispheres there are small cavities or sacs filled with yellowish serum. Within the canal of the vertebræ, serum surrounds the dura mater, and within that covering the fluid is equally abundant; the bodies of the vertebræ are in their cancelli spongy, and of a deep purple colour; the venous sinuses are replete with dark blood, as are the vessels passing through the lateral foramina; and the envelopes of the cords of the nerves are coated with a bloody gelatinous effusion. The arteries of the spinal marrow, anterior and posterior, are salient, and from them a network of distended vessels surrounds the medullary elongation. This turgescence is always most conspicuous in the cervix and loins, but in the cervix it is seldom that the blood is not somewhat of a florrid redness, though elsewhere it is of a dark or venous complexion. Many of the nervous cords emanating from the spinal marrow, and even their individual filaments, are accompanied with turgid vessels; and what is worthy of attention, turgid vessels often attend their seeming roots to the very centre of the medullary substance; nor should we overlook the ossific depositions so often observed on the arachnoid coat.

The organs of motion, voluntary and involuntary, have lost their firmness; the viscera of the thorax and abdomen exhibit a great diversity of morbid change, though perhaps the heart, with the larger vessels, the liver, spleen, and kidneys, are most frequently perverted. Among the results detailed, it were not easy to select those that are to a certainty diagnostic. We have gained, however, this decisive point, that, whatever else may be sound or unsound, the spinal cord and its appurtenances are never, in any instance of gout, free from the well known effects of morbid action. It is not sufficiently understood, besides, that the centre of the nervous system is in every commotion, partial or general, the part most powerfully attacked; but hence it is, that gout has both morbid symptoms and anatomical characters in common with an almost infinite variety of disorders; and that of this centre there is one portion, viz. the medulla oblongata, upon which the continuance of life immediately depends; but wherever disease begins, hither it must come before the vital functions cease. Disturbance or failure in the organs served from the eighth, ninth, or accessory pair of nerves always introduces the fatal event, and so far gout is related to all other mortal diseases.

Concluding remarks, &c.—We have now viewed this severe affliction of the opulent, the luxurious, and the great, under its phases in the living and in the dead; and though dissection has not followed every one of the cases, yet so closely are they allied in signs, in symptoms, and event, that we cannot doubt but they would all have manifested an equal correspondence in their anatomical relations.

But what is detected after death is not precisely the same in any two bodies. To arrive at any definite conclusion, therefore, we must distinguish between those morbid changes which are essential, and those merely incidental. It is only by proceeding thus, indeed, that anatomy can shed any clear light on the phenomena of disease. In this nice discrimination we shall never fail, I believe, of success, if guided by the following plain maxim. Things which may, or may not, co-exist, not being necessarily connected, are merely incidental, while those constantly together are exclusively to be received as essential. According to this rule, then, let us try what is essential in gout. There is no part that has not been observed in one sound, and in another unsound, except the centre of the nervous system. In it morbid change is constantly present, and the extension and danger of the disorder are in direct proportion to the extent and degree of this morbid change; the affections, therefore, of this centre are the essential.

Having come to this centre itself, we do not find that it is ever all equally affected. Often, on the contrary, the greater part of it is entire, indicating that the disease is primarily local. This locality varies with the organs attacked, and there is not one in our fabric which may not be the first to evince its influence. To determine, therefore, in any case, where, in respect of the nervous system, the seat of the complaint is, can be no difficulty to him who knows whence the suffering organ receives its nerves; but with every allowance for anomalies, we have proved, that the internal nisus generally tends to the evolution of the same symptoms in the same parts,—that is, to the production of perfect arthritis. Here, it is to be remembered, that in this the most common or regular form of gout, the lumbar and sacral nerves are the first disturbed, involving the inferior extremities, and often simultaneously the bladder and rectum; next the morbid action ascends, involving the kidneys, the liver, stomach, heart, respiratory apparatus, and encephalon, proving, that though all the parts of the nervous centre may be successively invaded, yet nature points to the inferior portion of the spinal marrow as that most liable; whence, the malignant operation once begun, if not removed, proceeds upwards, and the responding nerves vitiate the functions of the organs which they respectively supply.

Inferences.—All the facts combined seem to establish,

1. That gout has its primary seat in some part of the centre of the nervous system.

2. That in whatever part it commences, it gradually more or less produces morbid change throughout the whole.

3. That it most frequently commences in the inferior portion of the spinal marrow.

4. That, as it extends, the remote organs become disordered in their functions, and ultimately in their structure.

5. That, in fine, gout is primarily and essentially a disease of the centre of the nervous system.

From the London Medical and Physical Journal.

ON CERTAIN METHODS OF TREATING ACUTE AND CHRONIC INFLAMMATIONS OF THE EYE, *lately adopted at the Royal Westminster Ophthalmic Hospital.*

By G. J. Guthrie, F.R.S. Professor of Anatomy and Surgery to the Royal College of Surgeons; Surgeon to the Westminster Hospital, and to the Royal Westminster Ophthalmic Hospital, &c. &c. &c.

To the Editors of the London Medical and Physical Journal.

Gentlemen,—In transmitting to you the accompanying cases, illustrative of certain methods of treating chronic inflammation of the eye, I do not intend to notice at present the various trials which have been made during the last eighteen months, in order to arrive at the mode of proceeding now adopted. It will be sufficient to say, that in no instance has any evil resulted from the remedies employed; whilst in most cases they have been eminently serviceable. The principle on which they have been used has been that of exciting an action greater, and of a different nature, to that already existing in the part, and therefore they must have been powerful in their effects. I have found them most manageable in the shape of ointments, and I gave the preference to the two following:

1. ℞. Argenti nitratis, gr. ij. ad. gr. x.; liq. plumbi subacet. gtt. xv.; ung. cetacei ʒj.

2. ℞. Hydr. oxymur. gr. iij. ad. iv.; liq. plumbi subacet. gtt. xv.; ung. cetacei ʒj.

The argentum nitratum, and oxymuriate of mercury, must be reduced first to an impalpable powder, then mixed with the ointment on a slab, and the liquor plumbi added. It may be done in a glass mortar. A double decomposition takes place in either ointment, which naturally diminishes the strength of each; but this change takes place slowly, particularly in the oxymuriate ointment, so that weeks elapse before they become inert. A very sensible difference is felt by the patient between an ointment only two days made, and another of two or three weeks' standing, and the stimulating qualities may be calculated according to the state of the eye, as well as the strength of the composition. The argentum nitratum ointment is gray when first made, but soon changes its colour to a brownish black. If the argentum nitratum be mixed with the ung. cetacei (as I once used it,) without the liquor plumbi, it dissolves more rapidly; when used, the powdered nitrate falls into the fold of the conjunctiva, or rests on the lid, and is apt to cause a slough, which is prevented by adding the lead.

The manner of using either ointment is by introducing between the lids a portion, larger or smaller as the case may seem to require it, from the size of a large pin's head to that of a garden pea. The eyelids being closed, are to be rubbed gently with the finger, so as to diffuse the dissolving ointment over the whole surface of the conjunctiva: a part of it usually, however, works out by the motion of the lids, and should be wiped off (if the nitrate of silver) to prevent its staining the skin. Both ointments cause pain: in some persons it is considerable, in others less so, lasting from half an hour to an hour and a half; and, when the ointment is newly made, sometimes for four hours, and even until the next day. On the subsidence of the pain caused by the ointment, that which previously existed is found to be relieved, if not entirely removed; and, on the subsequent day, the patient usually acknowledges the benefit he has received with regard to all the symptoms. When the application has been severe, and the patient very irritable, a state resembling white chemosis occasionally takes place, and appears formidable to a person unacquainted with the effect of the remedy: it soon, however, subsides. The eye should be fomented with warm anodyne fomentations.

I rarely repeat the application until the third day; but the feelings of the patient are the best guide, the return of some of the old sensations indicating the necessity for its use, which should be, if possible, anticipated. In some cases of acute inflammation, two or three applications will arrest the progress of a serious disease, and effect a cure. In chronic cases, the ointment must be continued for a considerable time, and occasionally alternated with other remedies. Where they create a state of regularly increased irritation, as they sometimes will do, cupping, purgatives, &c. are of service; when the remedies may again be resorted to.[*]

In the various trials I have made with these applications, and others of a similar nature, I have generally used purgatives, sometimes mildly, sometimes severely; and very often serious complaints have been treated successfully without any internal medicine. In some cases they disagree altogether, but then it is when they have been called upon to do that which ought not to have been expected from them. I do not consider them as specifics for all diseases, but as remedies capable of doing an infinity of good under proper management.

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[*] It is curious to see the feelings manifested by different persons. Some, indeed, nearly all subjected to the use of these ointments at the Ophthalmic Hospital, asking to have them applied; others fearing the pain, but satisfied of the benefit received, and choosing their own days, and which eye, when both are affected.

I am, gentlemen, your obedient servant,

G. J. Guthrie.

P. S.—In the following cases I have suppressed the names of the different gentlemen whose care the patients had been under. It must, however, be understood they were all acquainted with, and professing a knowledge of, this branch of surgery. To those unacquainted with it, it may appear strange that persons who have been shown to be curable should remain so many years under the best care, both in and out of hospital, with so little amendment. Nothing is, however, more common; and that persons labouring under diseases of this nature should require from twelve to twenty months in the hospital before an approach to a cure is accomplished, the minutes of the Ophthalmic Committee of the House of Commons will abundantly testify. This fact will be a sufficient apology for the different trials which have been made, and for those which may yet be made, in order to discover better and speedier modes of cure.

Case 1.—Maria Courage, 127 Long Lane, Bermondsey, aged 15, has had her eyes bad for five years, so as scarcely to be able to see her way, and was frequently confined to the house for months together; was under the care of a gentleman professing a knowledge of diseases of the eye for about three years, going to him three times a week; was recommended by Mr. Furnival, of Westminster, to Mr. Guthrie, on the 9th of January, 1828, and has attended sometimes twice and sometimes once a week since that period.

On her first application, the conjunctiva of the palpebræ was thickened and granulated; that of the eyeball loaded with tortuous red vessels; the cornea very opaque, having red vessels running in it, and several small ulcers on various parts of it; the cicatrices of others which had healed were very obvious; great intolerance of light. The unguentum hydrargyri nitrat. was applied the first day, and has been repeated whenever she attended, save once, when, from having caught a little cold, it was omitted. The only internal medicine she has taken during this period has been senna and salts about once a fortnight.

She found benefit from the first application, and at the end of the first month was greatly relieved. She considers herself to have been well the last two months, although she has continued to attend. At present the only appearances of derangement are several small spots, the cicatrices of ulcers on the cornea, which cannot be entirely removed.

Case 2, by the patient.—A Sketch of the Cause and Progress of the Disease in my Eyes.—The last week in April, 1822, I was sitting at work, a window being open over my head, a cold hazy day, the wind at north-east. (I mention this circumstance to explain that I have, since that period, invariably experienced a relapse when the weather was similar.) Sitting as above described, I caught cold in my left eye, and had a sensation as if sand had been in it. In two days it became swollen and closed; the ball appeared a mass of blood. I was advised to apply to Mr. ——; I waited on him accordingly. The fifth time of attendance, he told me I had lost my eye; he scarified the under lid, gave me a pill, and sent me home. By going to this institution I heard of you. I waited on you the next day: you pronounced it was an iritis, and remarked it was not so far gone but might be restored; by good fortune I made timely application to you. You ordered me to lose sixteen ounces of blood from the temple by cupping; to take two small pills every two hours, which caused a heavy salivation in two days, a sore mouth upwards of three weeks, which did away that great mischief, and saved my eye from total destruction.

In about five weeks after, the inflammation was communicated to the right eye, and ever since it has been the most troublesome and painful, always most susceptible of catching cold. The inflammation abated, and relapsed from time to time; the lids became granulated. I was rubbed with the sulphate of copper three times a week successively for two years, using various kinds of drops, repeated cupping and blistering, pills, &c. I was rubbed with alum and sulphate of copper occasionally for another year, which eventually cleared the eyelids, the sight gradually diminishing all the time. At length I could not see my way, nor discern any object distinctly, until the last five or six weeks, the stimulating ointment had the happy effect of clearing the apparently muddy fog that so long embarrassed my sight. I can now see every surrounding object quite distinctly.

P. J. Walsh.

April 30th, 1828.

I have all along observed the efficacy, or otherways, of the former applications.

P. J. Walsh was taken into the Westminster Hospital in December, 1827, and was discharged cured 30th April, 1828, during which time the ung. argenti nitratis was the only remedy made use of.

Case 3.—Thomas Walsh, admitted a patient at the Royal Westminster Ophthalmic Hospital, March 23d, 1828; says he has had bad eyes more than five years. Has been under the care of Mr. —— three months, and subsequently under Mr. —— nine months; when Mr. —— said he need not attend him any longer, as he could do no more for him; that he might perhaps derive some benefit from an issue under each eye, but that he would not promise any great amendment. Walsh would not submit to the issues without the prospect of a cure, and left the institution in consequence. He then consulted several practitioners, was under some two, others three months, but found no relief. After this he applied to several quacks and advertisers, with as little effect. He then allowed two months to pass over without doing any thing, when he heard of Mr. Guthrie, and applied here in consequence.

On his admittance, there was much chronic inflammation of the cornea and sclerotica, both irides irregularly contracted, the right cornea very opaque, and considerable tarsal inflammation.

Treatment.—March 22d.—℞. hydrarg. submur. gr. iij. h. s.; magnes. sulph. ℥j. mane.—Applicr. ung. argent. nitrat. to both eyes.

25th.—Repr. pil. et M. S.—Repr. quoque unguent. arg. nitr.

April 1.—Repetantur omnia. 3d. Repr. 8th. Repr. 10th. Repr.

After the first application of the ointment, he was much relieved; continued improving till the 10th of April, when the inflammation was all but removed, and the opacity of the cornea fast disappearing. He has been using the ointment up to this period, at first regularly, and afterwards once a week or occasionally. There is now no appearance of inflammation or opacity, and the irides are nearly natural.

July 31, 1828.

Case 4.—John Wade, aged forty-five, suffered an attack of inflammation of the right eye in February, 1817, which shortly after extended to the left: for which he was bled, blistered, and physicked by several gentlemen until October, 1827, when he applied for assistance at the Royal Westminster Infirmary for Diseases of the Eye. He was then unable to see his way, and was obliged to be led; the conjunctiva lining the lids was very much thickened and granulated, the cornea opaque, the conjunctiva of the ball very vascular, discharge, both watery and puriform, considerable. He was directed to use the argentum nitratum ointment, which in a short time relieved the most urgent symptoms; but, having to attend from Chelsea, was exposed to the frequent changes of the weather during winter and spring, and suffered several attacks of acute inflammation.

On the 21st of June, 1828, he was admitted into the Westminster Hospital; was directed to be well purged, and to have the ung. argent. nitrat. applied every third or fourth day, as his own feelings dictated. Under this treatment he gradually improved.

On the 2d July, five grains of the pil. hydrarg. were ordered to be taken every night, and some house aperient medicine in the morning.

August 2d.—The mouth is slightly sore from the pills, which are to be discontinued. The eyes have regularly improved since his admission into the hospital, and without any deviation; the corneæ are cleaner; the thickening of the lids is nearly gone, although the conjunctivæ lining them are still villous.

This case has been selected because it remains under treatment.

Case 5, by the patient.—Pearson Smith applied in January, 1828, to Mr. Guthrie, having been six years suffering from sore eyes, for which he had sought relief in vain from many gentlemen; and was then so nearly blind as not to be able to see a post. The black ointment was used, with almost instant relief, (the ung. argent. nitrat.:) attended regularly the first two months, afterwards at intervals, until April, when, thinking himself well, he went to work. Suffering a slight relapse in June, has again attended, and feels himself nearly well. Considers he owes his cure to the black ointment alone.

Case 6.—Ann Adnam, aged thirteen, has been unable to open or use her eyes until lately for the last twenty-two months, although she had been constantly under treatment at the Royal Westminster Ophthalmic Hospital for the first year. She was then put under the care of other persons; but, finding her eyes getting worse, she was re-admitted into the Ophthalmic Hospital, April 8th, 1828, and had the argent. nitrat. ointment applied, which has been continued twice a week ever since, with an occasional dose of calomel, with salts and senna. She can now open the eyes; the corneæ are much clearer, and she can see. She is very subject to relapses on the slightest cold, but there is now every appearance of her getting well. Until the ung. argent. nitrat. was applied, no other remedy seemed to be of the least use.

July 31, 1828.

Case 7.—Thomas Porter, aged eighteen, has been suffering from chronic inflammation of the eyes, more or less, for the last five years, and particularly for the last two, so as to be unable to work or get his bread; applied at the Ophthalmic Hospital, 24th July, 1828, in this state. The unguent. argent. nitrat. was used on the 24th, 26th, 29th, and August 2d; on which day he says, "he considers himself nearly well; the pain is entirely gone, and he can see a great deal clearer." The morbid vascularity of the eyes has disappeared, but the corneæ bear the cicatrices of several ulcers.

Case 8.—*Acute Inflammation.*—William Bacher, aged thirty-four, applied February 26th, 1828, with acute catarrhal inflammation, of three days' standing, in the right eye, and two in the left. It began with itching, followed by pain, as if something was in the eye, attended by a discharge of hot water, which prevents his sleeping, from the quantity which fills the eye, and forces him to open the lids with his fingers; cannot bear the light, and there is a difficulty in opening the eyelids, from the thick matter which in the night glues them together; pain in the head and over the eyes; the right suffused of a yellowish colour, and streaked with red vessels, arborescent, patchy with slight extravasation; some vessels running straight up to the cornea, others arborescing; streaks of mucus in the folds of the conjunctiva; edges of the lids slimy. Separating the lids relieves the uneasy sensations.—The ung. argenti nitratis, gr. xv. ad. ʒj. applied.—No internal treatment.

27th.—The pain from the ointment lasted until seven in the evening, (six hours;) discharged a good deal of water from the eyes in the night, but was much easier, as there was very little matter after seven in the evening; they therefore stuck together but slightly, nothing in comparison with the night before. There is now the same intolerance of light; but little discharge of water; very little sandy feel, or pain, perhaps once an hour; eyes are not so red, but the redness is more in patches; headach better.—Apply warm water only.

28th.—Complaints all returned last night at twelve o'clock, and thinks himself as bad as ever: begs to have the ointment applied, which was done.

29th.—Is again better. Slept well last night; the eyes discharged water freely, but the lids did not adhere together; has little or no pain; bears the light better; conjunctivæ appear redder.—Apply the ointment gr. x. ad. ʒj.

March 1st.—The ointment gave pain for three hours, but says he is much better, and slept well. No application.

2d.—Pain came on yesterday afternoon, although it did not prevent his sleeping well. —Apply the unguent.

3d.—Slept well last night. Free from pain, and has very little discharge; bears the light better; conjunctivæ red, but less so than hitherto, and more of a yellowish red. No application.

4th.—Right eye rather painful last night; left free from pain; both are better.—Repeat unguent. nitrat. argent.

5th.—Nearly well, and wishes to go to his work.

10th.—Not quite well, but is obliged to work, having a large family.—Repeat the unguent. nitrat. argent.

13th.—The ung. hydrargyri nitratis to the eyelids at night.

18th.—Unguent. argenti nitratis.

April 1st.—Has not attended since the 18th. There is some slight chronic inflammation of the lids remaining, but thinks nothing of it.

N. B. Has had eight in the family affected in a similar manner, and all cured by the same means.

From the Lancet.

EXPERIMENTS ON THE VELOCITY OF THE CIRCULATION. By M. Hering, of Stuttgart.

Haller and Sauvages were the first who tried to ascertain, by experiments, with what velocity the blood is carried through the vascular system; their calculations, however, were fallacious, as they were founded on the supposition, that the movement of the blood depended exclusively on the action of the heart. Haller's conclusions respecting the velocity of circulation in frogs, and small fishes, are more correct, as they were confirmed by autopsy; but his observations were confined to cold-blooded animals, and we need hardly mention how hazardous it would be to infer from them the velocity of the blood in warm-blooded animals. The same remark applies to the experiments of Spallanzani and Dollinger. In more recent works on the subject, the comparison of the quantity of blood contained in the ventricles of the heart, with the whole mass of the blood, and with the number of pulsations in a certain time, was considered sufficient to determine the relative velocity of the blood; a method, the uncertainty of which clearly appears from the circumstance, that the quantity of blood cannot be made out with precision, and that the number of pulsations, and the capacity of the ventricles, differ very considerably in different individuals. (M. Hering found the capacity of the left ventricle in horses, differed from 3 to 11 ounces, and that of the right ventricle from 4 to 38 ounces.)

M. Hering tried another method, which seems to lead to a more accurate result. He mixed a solution of the hydrocyanate of potassium with the blood; he then took, at certain intervals, small quantities of blood from various parts of the body; and from the chemical examination of these different portions of blood, and from the comparison of the time which the substance required to arrive from one vessel into another, endeavoured to ascertain the relative velocity of the blood. The hydrocyanate of potassium seemed to answer best, as, even in a considerable quantity, it can be mixed with the blood, without causing any important derangement in the economy, and by chemical reagents, it is easily, and with great accuracy, detected in the fluid, and also in the solid animal parts.

The fluid was not injected, but by means of a small funnel, instilled into the vessel. The sulphate of iron was principally employed to discover the presence of the hydrocyanate of potassium; as, however, the blue colour of the precipitate, produced in this manner, does not form immediately, a few drops of hydrochloric acid were added, to accelerate the latter effect. By these means, one particle of hydrocyanate of potassium is detected in 20,000 particles of serum. In order to obtain the latter as pure as possible, the chemical examination was made some days after the blood was taken. The experiments were made on horses. A solution of two drachms of the hydrocyanate of potassium, in twenty-two drachms of distillated water, was instilled into one of the jugular veins, and at the intervals of a minute, sometimes only of ten seconds, a small quantity of blood was taken from other parts of the body. The instillation of the fluid had, in most cases, no injurious effect on the animal; it even had no influence on the pulse. In some instances, where the animal was killed immediately after the experiment, most of the fluid and solid parts were submitted to a chemical examination. We omit detailing the experiments, and give our readers only the conclusive remarks of M. Hering.

1. The time, within which the hydrocyanate of potassium, after having been mixed with the blood, passes from one of the jugular veins into the opposite, is from twenty to thirty seconds; from the jugular vein into the thoracica externa, it requires twenty-three to thirty seconds; into the saphena magna, twen-

ty seconds; into the arter. masseterica, fifteen to thirty seconds; into the arter. maxill. externa of the opposite side, from ten to twenty-five seconds; and into the arter. metatarsi, from twenty to forty seconds. It would seem that an increased frequency of the pulse is not accompanied by an increased velocity of the blood; for, in several experiments, where the pulse differed in a considerable degree, the velocity remained the same.

2. The hydrocyanate of potassium, within a very short time after the experiment, is excreted by the serous membranes, but in a small quantity. The time varies from two to eight minutes.

3. The mucous membranes excrete the hydrocyanate of potassium more slowly; that of the right half of the stomach surpasses, in this respect, that of the intestines, and the latter that of the respiratory organs. In the mucous membrane of the urinary and genital system, the excretion is slowest. On those parts of the mucous membranes, which are lined by an epithelium, as the eye, the mouth, œsophagus, and left half of the stomach, no trace of the hydrocyanate could be discovered.

4. In the kidneys, the excretion appears to take place with the greatest rapidity; in all experiments, within one minute after the instillation, the hydrocyanate of potassium was found in the cortical, sometimes also in the tubular substance, and, in a few instances, in the pelvis renum.

5. In the lungs, the hydrocyanate of potassium was found in very small quantity.

6. Only one minute is required to bring the substance from the jugular vein into the thoracic duct; in the lymphatic glands, it was not found in several experiments, although it appeared in considerable quantity in the ductus thoracicus. This apparently confirms the recent experiments concerning venous absorption, and makes it highly probable, that there is a direct communication between the lymphatic and arterial systems.

7. The foreign substance is, within a short time, eliminated from the blood; after twenty-four hours, no trace of it could be found even in the solid parts.—*Zeitschr. für Physiol.*

From the Edinburgh Medical and Surgical Journal.

THOUGHTS ON CONTAGION. By Thomas Masterman Winterbottom, M.D.

It has been the opinion of many judicious writers, that the ancients were totally unacquainted with the doctrine of contagion; and Dr. Adams,[*] speaking of their great dread of poisons, adds, "they were free from many of those apprehensions concerning contagion, which have detracted so much from the peaceable enjoyments of the moderns." This opinion, by no means modern, has been considerably extended by a very intelligent writer of the present day,[†] who attempts to prove, that the doctrine of contagion does not reach further back than the year 1547,[*] the time of the removal of the Council of Trent to Bologna,—adding, that it was a farce enacted by Fracastorius and the Pope Pius III., who conjured up a malignant spirit to terrify into obedience a set of refractory people.[†] But that the ancients did actually believe in the existence of contagion, and even entertained very nearly the same opinions which are now held, has been most satisfactorily proved by Dr. Marx in his very elaborate work on this subject.[*] The learned author, in support of the antiquity of the doctrine of contagion, has brought forward such a vast number of clear and decisive quotations from various writers of every class, as to render it doubtful whether most to admire his industry or his erudition. A single quotation from one of the oldest editions of the great Roman satyrist will show how accurate his notions were on this point:—

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[*] Observations on Morbid Poisons.

[†] Maclean on Epidemic and Pestilential Diseases. London, 1818; also Paskal Jos. Ferro, von der ansteckung der Epidem. Krankheiten.

[*] The present doctrine, however, of contagion and of quarantine is very clearly and briefly expressed by an Italian writer of a prior date to that stated by Dr. Maclean. It is there said, "Chi non hauera a çuersare con li infecti, fugga ogni conversatione perche cosi facendo sara molto piu sicuro non cognoscendo lo inimico ne potendose vedere; ma habbia opinione che ogni homo li sia inimico e ammorbato." "He who has no need to associate with the infected must avoid every approach to conversation, for doing thus he will be much more secure, not knowing or being able to see his enemy. Let him think every man his enemy, and diseased." Omodei speaks of this author as a celebrated writer named Baverio or Baviera, noticed by Beroaldo, "tamque Æsculapius colebatur, consulebaturque in medicinæ disciplina; cujus decreta oraculis veriora existimabantur." Omodei had not been able to obtain this work, but gives the title of it as printed at Bologna, in 1478. In a small work, with the perusal of which I was favoured by Professor Duncan, Junior, the title noticed by Omodei is prefixed to the head of the first page; "Regimento degno e utilissimo come l'homo si debbe gouernare e preservarse nel tempo de la Peste,"—"a useful regimen for a man to observe, in order to protect himself during the time of plague." The title-page of the book is ¶ Tractato mirabile contro de la Pestilentia. Composto per il famosissimo et excellentissimo Doctore Maestro Bauera, nobile Bolognese; a satisfatione de li poueri homini. At the end it is said to be ¶ Impreso in Perusia nelle Case de Hieronymo de Carthulariis. Adi. 15, de Genaio, 1523, and is probably a reprint of the Bologna edition. The work consists of 28 pages in 12mo., and gives very precise rules during each day of the week, for regimen and diet, whilst the pestilence continues. His advice to the physician before he begins to visit his patients in the morning, deserves a place in the golden rules of Pythagoras, "purgare e procurare chel corpo suo sia netto si de peccati come de catiui humori,"—"to purge and strive to render his body free from sin as well as from bad humours." In a letter from Sir Thomas More to Erasmus, during the prevalence of the sweating sickness in England, he says, "minus periculi in aëre quam in urbe esse."

[†] Muratori is brief on this subject; he merely states that the fathers were discontented with Trent, on account of the tumults of the neighbouring wars, aud the severe sickness which raged in the city. Paul III. does not deserve to be accused of duplicity in this af-

————————dedit hanc Contagio Labem:
Et dabit in plures; sicut Grex totus in Agris
Vnius Scabie cadit; et prurigine Porci:
Vnaq. conspectum Livorem ducit ab una.[†]

The commentary also, too long to be inserted here, proves that the effects of contagion were understood at that time. Eusebius,[‡] who wrote 340 years after our Saviour, describing the terrible plague which raged at Alexandria, very clearly proves the dread entertained at that time of contagion. The Christians, he says, animated by religious faith, exposed their lives with cheerfulness in ministering to the sick, though fully aware *they were drawing the disease from those whom they approached to themselves.* τηv νοσον εφ' εαυτους ελκοντες απο των πλησιον. Upon the pagans the dread of contagion produced an opposite effect; terrified at the sight of death, they repulsed those who fell sick; they fled from their nearest and dearest friends, or cast their dying bodies into the public roads. The unburied bodies were regarded as dung, (απεσκυβαλιζοντο,) and by every means they avoided communication with death, which, however, they could not escape, [*lib. vii. cap. xxii.*

Two other Byzantine historians, Evagrius and Procopius, give the clearest proof that they understood the nature of contagion, while describing the universal plague which occurred during the reign of Justinian. Procopius describes the disease with so much accuracy, as to induce the learned Dr. Friend to suppose that he was a physician, or at least had studied medicine. He notices bubo, carbuncle, and petechiæ. It is probable that when he says in some the bubo putrefied, (τουτοις δη ο τε βουβων εσφακελιζε,) he describes carbuncle. Petechiæ were always and speedily fatal, (τισο τε φλυκταιναις μελαιναις, οσον φακου μεγεθος, εξηνθει το σωμα, οι ουδεμιαν επεβιων ημεραν, αλλ' ευθυωρι παντες εθνησκον.) In some the body effloresced with dark-coloured spots of the size of a lentil. These did not survive a single day, but all died immediately.[*] Procopius is very anxious to prove the disease was not communicated by contagion, and uses the very same arguments which a modern non-contagionist would offer in support of his opinion. Evagrius, who suffered from the effects of the disease in his own family, decidedly refers it to contagion. His description of the disease is very brief, and though by no means to be compared with that of Procopius, from whom he has been supposed to borrow,[†] yet Dr. Marx, rather unjustly, and probably because he is a contagionist, thinks greater credit is due to Evagrius than to Procopius. We must, however, agree that the writings of these two authors fully establish the fact of the effects of contagion being fully understood by them both. Besides, we are so accustomed to contradictory opinions in medicine, that we feel no surprise in finding two contemporary writers differ so materially in opinion. In the late destructive epidemic at Groningen, two physicians, both highly talented, residing in the same town, and having equal opportunities of appealing to facts, (Professors Bakker and Thuessink,) have maintained opinions respecting the contagious nature of the disease diametrically opposite to each other.[‡] In such cases we ought to apply the motto of the illustrious Haller, "*Fidem non abstulit Error.*" Two other writers nearer our own time, but still anterior to the council of Trent, deserve to be noticed. Saladinus Ferro Ascolanus, a writer of the fifteenth century, as we find expressed at the end of his work, gives strong evidence of his ac-

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fair; he appears to have acted with sincerity; for as early as April 28, 1536, he proposed a council, which was repeated on the 29th of the succeeding May. The council was appointed to be held at Mantua, in May 1537; but when the time approached, many doubts and difficulties were raised by the Duke. At Lucca, in 1541, the council was proposed to be held at Trent, in November, but was delayed by the war; Renaldi, however, declares no place was fixed upon. The council was at length held at Trent, for the first time, December 15, 1545, though thinly attended. It finally terminated December 4th, 1563, in its 25th session. *Muratori Annali d'Italia*, Vol. xiv. p. 461.

We may suspect that something more than state policy decided this removal; for we are informed, that from June to November, 6000 persons died in Trent, after an illness of from two to seven days.—*Sprengel Gesch. d. arzneik.* iii.

[*] *Origines Contagii*, 1824. *Reprinted in* 1827, "*cum additamentis.*"

[†] Iuuenalis cum tribus commentariis uidelicet Domitii Calderini Georgii Merulæ, nec no Georgii Vallæ.—Impressum Venetiis, anno 1493, die xxii. Aprilis.

[‡] Eusebii Pamphili Ecclesiasticæ Historiæ, libri x. Ed. Ern. Zimmermannus Francof. ad mænum, 1822.

[*] *De Bello Persico, L. ii. c. xxii. and xxiii. p.* 141, *et. seq. Ed. Maltreti.*

[†] *Theodoriti et Evagrii scholastici Hist. Ecclesiast. l. iv. c. xxix. Ed. Gul. Reading.*

[‡] *Beschreibung d. epid. Krankheit zu Groningen im. J.* 1826.

quaintance with the effects of contagion.[*] The other work, the oldest in the Italian language on plague, is that of Soldi, a Florentine author.[†]

The dread of contagion gave occasion to the celebrated Decamerone, in which Boccacio describes the plague at Florence in 1348. Though he is supposed not to have been present, yet he describes the symptoms very accurately, and clearly points out the contagious nature of the disease. He compares the effects of the contagion upon the human body to that of fire applied to dry and greasy substances. Physicians and medicines, he continues, were of no use; the only remedy available was, "*di schivare e di fuggire gli infermi e le lor cose*,"—to avoid and fly from the sick and their goods. Petrarch speaks of the plague of 1348, which deprived him of Laura,[‡] and which was so destructive in its course, that historians asserted that the destroying angel in the time of Noah had not occasioned such desolation.[§] The danger of attending upon the sick was so imminent, that the Pope gave absolution to all who undertook that office.[‖] Giovanni Villani[¶] refers the introduction of this same plague into Genoa to some of their gallies returning to port filled with sick, who almost all died, and corrupted the air so much, that whoever approached them immediately sickened and died.[*] The elegant historian of Italy, Guicciardini,[†] who died in 1540, notices the dreadful pestilence which, as the usual accompaniment of famine, showed itself at the seige of Naples in 1528. He says, "*aggiugnevansi l'essere cominciata in Napoli la peste, contagiosa molto dove sono soldati Tedeschi, perchè non si astengono da conversare con gl'infetti, nè da maneggiare le cose loro*,"—"the plague had begun in Naples, extremely contagious where there *are German soldiers*, because they do not abstain from conversing with the infected, or from handling their goods." In 1533, during the plague at Paris, infected houses were marked with a red cross, and persons coming thence carried a white wand,—a sufficient proof of the danger of contagion being known and guarded against. Dr. Granville (p. 33) quotes an author on contagion who wrote in 1534. In the work of Ploucquet is inserted, Le Conte, ergo absque præparatione nellum contagium. Paris 1539: about eight years before the removal of the council of Trent to Bologna. The plague which devastated Naples in 1656 nearly reduced it to the state of a cemetery, and infinitely surpassed that which occurred during the war of Lautretch. In the latter, during the two years of its continuance not more than 60,000 persons were carried off; but in the former plague, 400,000 of the inhabitants died in six months. Having been sanctioned by the Pope, contagion was at this period almost universally acknowledged; and Giannone[‡] refers it of course to contagion imported from Sardinia by soldiers. He marks its introduction and progress as clearly as if fully acquainted with the tenets of the present time; "*Attacatosi il malore nelle vicine case, si vide in brevissimo tempo sparsa la contagione ne quartieri inferiori della citta, e particolarmente nel lavinaro, mercato, porta della calce ed armieri.*"

Contagionists have universally agreed in referring the origin of plague to the East, but in which part it is endemial they have not yet decided. In Egypt they refer it to Constantinople, or at least to some part of Turkey; and there they probably return the compliment. It is amusing to remark how anxious men are to remove the odium of sickness from their own dwellings, and attach it to their neighbours. I have heard in Africa persons very gravely asserting the comparative healthiness of their own situation, and declaring that every other part of the coast was unhealthy, and even dangerous. Dr. Frank is very strenuous in maintaining the general salubrity of Egypt, and in declaring that plague is always an imported disease. Dr. Wolmar cherishes the same opinions, and fixes the charge of poisoning Egypt upon Constantinople, where plague, he asserts, is endemial. Formerly the plague occurred but seldom in Egypt, perhaps only once in five or six years, and on one occasion not till after an interval of ten years. The more frequent occurrence of plague in that country at present is very plausibly accounted for by Dr. Wolmar. He remarks, that within the last forty years, the trade has been carried on by Turks dwelling in Scanderoon, Damietta, Rosetta, and Kairo; whilst formerly, the trade from Constantinople, Smyrna, Aleppo, Damascus, and Syria, was wholly in the hands of Europeans domiciliated in Egypt, and Greek or Damascus merchants, from whom the Turkish merchants in Egypt received their goods. By degrees the Turks built ships, and went themselves annually to the above mentioned cities, so that at the present time the whole trade is in their own hands, and they supply Egypt with the products of the East, as well as of Europe. Whilst Europeans held the trade, they collected their different wares from the various cities, only at those times when they were free from plague; and therefore they imported them into Alexandria, Damietta, &c. free from contagion. On the contrary, the Turks, who disregarded every precaution, made their purchases even whilst the plague was raging, and when the merchants, shut up in quarantine, were willing to part with their goods at an inferior price to what they would ask during the time of health.

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[*] *Scritto da me Saladino Ferro Ascolano, Professor delle arti liberali, dottore di medicina, l'anno* 1448, *pp.* 145, 149, 172, 175,—a work usually attached to that of Gratiolo di Salo, *Discorso di Peste Vinegia* 1576. Di Salo says, "Alcuni chiamarano cotal peste anguinaglia," some called this plague anguinaglia (bubonic,) from the swellings in the thighs. Boccacio describes the bubos as "o nell' anguinaia, o sotto le ditelle certe infiature," as certain swellings in the groin or under the armpits, called by the vulgar Gavoccioli.

Even a modern physician of much experience, Dr. L. Frank, in giving his prognosis in plague, observes, "omnis peste adfectus omnino pro perdito haberi potest," p. 73.

[†] Jacobi Soldi, Florentini; viri religiosi ordinis Diuæ Mariæ serve. sacræ theologiæ Bachalarii eruditi opus insigne de. Peste, &c. Impressum Bononiæ, &c. &c. Anno salutis 1478. By mistake, Ascolano is placed by Sprengel in the fourteenth, instead of the fifteenth century. Gesch. d. A. K. ii. 405. Ascolano is not noticed in Haller's Bib. Med.

[‡] "Or qual fusse il dolor qui non si stima;" *Trionfo della morte.*

[§] The suddenness with which plague is said to prove fatal is the chief cause of the terror attached to it. But Samoilowitz denies the suddenness of death in this disease. He examined the bodies of several who had been said to drop down suddenly, but found they had all been ill ten, twelve, or fifteen days.—p. 35.

[‖] Kurt Sprengel pragmat. Geschichte der Arzneikunde, ii. 484, a most learned and amusing work.

[¶] Viaggi di Francisco Petrarca, dal Prof. Ambr. Levati, Milano, 1820.

[*] Ghilini *Annali d'Alessandria* observes, that in July 1500, a committee of four persons was chosen from the general council, to consider upon the best means of guarding against the introduction of an epidemic, which raged at that time in Germany.

[†] Istoria d'Italia libr. xix.

[‡] Istoria civile del Regno di Napoli, lib. xxxvii. c. 7.

If by boldly denying the existence of contagion we would prove it to be a mere delusion, an infinite blessing would be conferred upon mankind; but to do so we must shut our eyes to facts too stubborn to yield. As well might we desire a man to thrust his naked arm into the fire and assure him he will not be burnt. Scarlatina, and sporadic typhus, which all persons have witnessed, afford too many melancholy instances of victims to contagion. Yet I think the non-contagionists have done much good; they have brought forward many negative proofs in favour of their doctrine, which all tend to show the danger of being infected to be greatly less than was formerly apprehended; and should we again be affected with that dreadful scourge, the plague, which, in all human probability, there is not much cause to dread, I trust we should not again witness those disgraceful scenes which have occurred, of medical men deserting their posts in the hour of public danger, a crime equal to that of a soldier who abandons his colours in the day of battle.

By contagion we understand a substance of an animal nature too delicate to be perceived by our senses, but capable of exciting in an organized structure certain actions by which the matter inserted is reproduced; and when a disease is capable of being transferred from one individual to another, modified indeed by circumstances, we say it is contagious or infectious. When its prevalence is unusually increased in any place it is said to be epidemic; and when a febrile disease proves rapidly fatal, and at the same time the deaths exceed the number of recoveries, it has been usual to term it plague or pestilence. Battista Susio, a Hippocratic physician, and a man of learning, impugns this opinion in his work, to prove that Mantua was not affected with pestilence in 1575. He says, during September and October, a few persons died who had tumours resembling carbuncles, amounting in forty-five days to only fifteen persons, but, as they died before the seventh day, it was judged to be the plague. In consequence a quarantine was instituted, and about a dozen persons were confined to a mill. As might be expected several sickened and two died, one a woman in childbed, from improper treatment. Here the populace, who held a different opinion, insulted the doctors for not calling the disease plague. "They called us," says he, "infected, carbuncled, bubo-ed, pestified fellows; '*Ci predicavano per ammorbati, per incarbonati, per imbubonati, et per appestati;*'"* professional epithets not easily anglicised. A contagious disease usually produces the same train of symptoms in similar organs. The exanthemata affect the skin; catarrh the mucous membranes; and typhus the sensorium. When it does not excite the same train of symptoms in structures similarly organized, it is not contagion, but merely an animal poison. In support of their doctrine, the non-contagionists adduce numerous instances of exposure to contagion with perfect impunity, and we must allow to these negative proofs their due importance. So far as they go, they are extremely valuable, and tend to prove that the danger of infection has been greatly overrated. But when it is objected that we cannot produce contagion in a material form, it is an unfair mode of reasoning, from various matters, too delicate to be observed, when received into the system, produce very remarkable effects. Acrid substances taken into the stomach often affect distant parts; the cruciform and alliaceous plants affect the milk of cows; garlic affects the skin; oil of turpentine and asparagus the urine. Nations living upon fish have a peculiar smell; and a vegetable diet gives an acid perspiration. In like manner the matter of a small-pox pustule, or of a yaw pustule, introduced into subjects susceptible of their action, produces its peculiar disease, though the matter introduced does not appear to differ from the pus of a common abscess; and the saliva of a rabid animal seems not to differ from that of an animal in health. In these instances the pus and saliva are probably merely vehicles in which the contagion is involved. How ex-

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* Del conoscere la Pestilenza, p. 57. In Mantova, 1576.

tremely minute the quantity of contagious matter may be we see in inoculated small-pox and in yaws. A common fly, *musca lepræ*, coming from a yaw sore, and alighting upon a skin very slightly scratched, will produce that loathsome disease; and the *fœtus in utero* has been affected with small-pox, though the mother had not the disease at the time, but passed through it years before.

Contagion has been compared to a germ planted in a proper soil, which always produces a plant *sui generis;*[*] and here, too, it may be remarked, how small a proportion the vital or vegetative part often bears to the substance which involves or protects it. Pursuing the same reasoning we may observe, that, as plants degenerate by being repeatedly sown in the same soil, so in like manner contagions lose much of their violence when they have been long introduced into a country, and seem to resume their activity when transplanted into a different region, and associated with different subjects. How contagion is produced we know not; but it appears to be always a product of animal life,—a consequence of febrile action; so much so indeed, that fever seems to be essential to its production. This opinion is strengthened by a remark of Pugnet,[†] a strong contagionist, that plague ceases to be infectious as soon as the fever subsides, in whatever state the buboes or carbuncles may be. Owing to this cause he thinks it is that the non-contagionists have been induced to assert, that plague is not so contagious as is commonly supposed, or even that it is totally devoid of contagion. He informs us also that the charpie prepared by the convalescent pest patients was used for the wounded, without ever occasioning any bad effects. He further remarks, that it was satisfactorily established that no instance could be produced of plague arising from an old pest sore after the cessation of fever. Schraud also remarks, that the wounds or sores of plague patients, probably when the fever had ceased, were closely examined by short-sighted people without ill effects. Contagion may always be produced under certain circumstances, when that peculiar action of the blood-vessels exists which occurs in fever.

Professor Hufeland[‡] considers contagion to be a process of *hyperanimalization*, produced by the crowding together of men or animals. This poison, (*zootoxicon*) he adds, the product of an animal gas, generated in the skin and lungs, is a kind of animal distillation; a product of the vital process, bearing a strong analogy to the narcotic principle, and very probably somewhat similar to the prussic acid. That a body in sickness should produce a something poisonous to a healthy person, is not so strange as that the skin of a healthy man occasionally proves poisonous to a healthy wound in another. I once remarked to an intelligent surgeon how frequently inflammation appeared in the arms of those he bled, and hinted that the lancet could not be clean. He replied that the same idea had occurred to him, and in consequence he had always made a point of using new lancets, but still with the same effect. He therefore suspected it to arise from placing his thumb over the puncture before the arm was bandaged; and by avoiding this in future, he met with no more cases of inflammation. Dr. Adams notices the same circumstance.—"When," says he, "the custom of putting the thumb over the orifice after bleeding was more general, this kind of ulceration, *ulcus exedens* of Celsus, or *festering* as it is called, was much more common."[*] We have many instances of death produced by even a slight scratch received during the dissection of a body recently dead; for if delayed beyond twenty-four or thirty hours after death, or until some appearance of decomposition shows itself, no injury can ensue. It seems not to be improbable that many morbid secretions, or at least such as are the product of a general disease, retain so much of the vital power which produced them as to be capable of communicating a similar disposition to other organic structures.[†]

Our inability[‡] to detect a corrupted or vitiated state of the atmosphere may not depend so much upon the imperfection of our instruments, which almost universally give the same results, as upon some powerful antagonizing power which preserves the uniformity of the atmospheric mixture; for we must suppose the mixture we breathe to be that which is best adapted for the support of animal life. Light is probably the chief agent in preserving this uniform state of mixture. It may be owing, perhaps, to the greater intensity of light that the fevers of tropical climates are so much less contagious than those of colder regions. Shooting parties pass through swamps under a bright sun with impunity, which before sunrise or after sunset would produce sickness or death. During the yellow fever at Barcelona, it was observed that people might during the day follow their occupations with safety, but to pass a single night in a sick-house was sufficient to be infected. Thuessink likewise remarks from his own experience, that contagion acted most powerfully at night. The healthiest and strongest men, he adds, who watched the sick but for a single night, were severely attacked within the space of eight days, p. 59. Those who cross the Pontine marshes know that the marsh miasma, or *aria cattiva,* is chiefly hurtful during the absence of the sun. The Psalmist seems to increase the terrors of pestilence by describing it as *walking in darkness.* During the rainy season at Sierra Leone, a few days of bright sunshine invariably improved the state of the sick. It is the want of light, implying also dampness and want of ventilation, that renders the dwellings of the poor such receptacles of contagion. Some very curious experiments have been made by pouring out considerable quantities of different gases into a room, which in a very short time were absorbed or decomposed so as not to be detected. Would the same effect be produced in a room totally dark? In the Recherches Hist. Chim. et Medicales sur l'air marecageux, Paris, 1823, by Professor Julia, are contained some interesting observations on this subject.

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[*] Richter.

[†] Pugnet, Mem. sur les Fievres du Levant, p. 132.

[‡] Atmosphar. Krankheiten u Atmosphar. Ansteckung. A work small in bulk, but pregnant with most important matter.

[*] Adams on Morb. Poisons.

[†] Brandis Pathologie, 127.

[‡] Contagia sunt succi animales blandi, omni acri et caustica natura destituti, qui impune devorantur, nec ad chemicas leges sed specifica quadam ignota vi nocent viresque corporis vitales immutant. Reil. Mem. Clin. fasc. iv. p. 125. Ueber die Erkenntniss und cur der fieber, I. p. 91.

The enigma respecting contagion has by some been attempted to be solved by comparing it to a disoxydizing or azotifying power;* to the effects of *Rhus toxicodendron;*† and to many narcotic poisons. Others have considered hydrogen‡ as an active ingredient in it,§ but in that case we might expect miners, who are exposed almost daily to its influence, would be more liable to contagious diseases than other classes of labourers. Others again have contented themselves with referring contagion to a peculiar state or constitution of the atmosphere,—a conjecture which has indeed a plausible appearance, but which by no means explains either the nature of contagion or the cause of contagious diseases. We cannot by any known means point out the difference between a pure state of atmosphere, and that which we suppose to be vitiated in a crowded hospital. We only know the sensible qualities of the air, its heat, moisture, and density. The various substances which may float in the air unperceived by our senses are quite unknown to us, yet every odorous body with an almost imperceptible loss of substance, fills the atmosphere to a considerable extent around with particles capable of powerfully affecting the organ of smell. In short, we know only the grosser composition, and that perhaps very imperfectly, of the air we breathe.

Some authors, indulging their speculations on this subject, and referring contagion to an atmospheric origin, have supposed an animated principle to be superadded, though too minute for our senses to detect; and this idea has given origin to the animalcular system,*—a doctrine espoused particularly by Kircher, but afterwards maintained by Linnæus.† The microscope shows us in a drop of water a world of animated beings; and since the whole of nature teems with life, the air also may contain a descending series of animals as much more minute than those in water, as that element is more dense than air. Professor Hufeland,‡ in his extremely interesting work on this subject, inclines towards the same opinion, and thinks we must assume a *pathogenia animata* to account for epidemic and contagious diseases. The term atmospheric disease, he thinks, is justified by the analogy observable between its appearances and that of an individual. In each we remark a certain course, a trifling commencement, a gradual increase, both in intensity and extent; a period of vigour or *acmè* when the disease is most general, and always most dangerous; then a decrease, and at length a total extinction; or, in other words, we may perceive periods of evolution, efflorescence, declension, and death. The operation of this germ of atmospheric disease, aërial infection, or epidemic, may be twofold. Either the contagion remains atmospheric, and does not spread from one individual to another, the reproductive power dying during the first propagation, and thus constituting a simple, pure epidemic: or it increases to such a degree in the individual as to evolve a contagion which may be transferred from one to another immediately, or by means of conductors, capable of exciting in other individuals the same disease.[*] This forms *contagion* or *contagious epidemic,* and in this Professor Hufeland thinks lies the distinction between an epidemic and a contagion, which may also solve the dispute so often arising, especially in the instance of yellow fever, respecting the epidemic or contagious nature of a disease. Experience affords us many proofs of both instances, for the same epidemic may be at the same time contagious and not contagious; and there may occur, in the former case, at the same moment, patients who have received the disease without contagion, merely through atmospheric influence, and others who have evidently taken it by means of individual contagion. Instances may occur at certain places and particular periods, where the same disease, yellow fever for example, prevails only epidemically, and others where it is very contagious, according as the disease in an individual has acquired the degree of intensity requisite for the production of contagion. In epidemic catarrh likewise we see many affected from epidemic influence alone, while others receive it from the contagion of those atmospherically affected. In scarlatina also, the first patients are usually affected by epidemic atmospheric influence; but afterwards the disease spreads from those individuals in whom it has acquired a certain intensity to others who are disposed to receive it. Hence we find, in this instance, as well as in that of the yellow fever of Spain and America, physicians who consider the disease merely as epidemic, and others as contagious; a very natural conclusion, for both cases occur, and both parties are right. Professor Dzondi, in a very important little work,[*] gives many original ideas upon this obscure subject. He considers contagion to be a matter endowed with a vital principle; the product of inflammation in organized bodies, and capable of reproduction, in contradistinction to miasma, which is produced by the decomposition of organized substances in the air, but is incapable of reproduction. His comparative view of contagion and the seeds of plants (p. 28) is ingenious and illustrative.

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* Brandis gives some curious remarks on the effects of azote. *Pathologie,* 130.

† Conradi. Handbuch der allg. pathologie, page 209.

‡ Hydrogen is found in most of the animal and vegetable poisons, which, from their narcotic powers, bear an analogy to contagious matters; such as the poison of the serpent kind, the tarantula and scorpion, of bees, of narcotic plants, and the poisonous exhalation of the *Rhus toxicodendron,* which, according to Van Mons, consists of carburetted hydrogen. But these gases, when they do not extinguish life, produce effects very different from contagion. The air of marshes has been found to contain carbonic acid gas and carburetted hydrogen, but we cannot, by any mixture of these gases, produce anin termittent; and the activity of vaccine matter is destroyed by exposure to hydrogen or azote. Bernhardi, p. 30.

§ Schnurrer, 114.

Dr. Grohmann, (ueber die im Jahr 1813, h. pest zu Bucharest,) a contagionist, asserts that even the confined air of a pest hospital is not impregnated with contagion of plague, (Peststoff,) and that the physician runs less risk there than in hospitals with nervous and camp fevers, provided he avoids touching the patient or his clothes, *excepting, however, the necessary feeling of the pulse,* p. 9. Berends Vorlesungen, ii. 176, Jæger de atmosphæra et aere atmosphærico, 1816.

* "Contagiones vera sunt atmosphæræ animalia;" Wallenberg de Rythmi in morbis epiphania, 253.

† Linnæus, Amœnitates Academicæ, V. 5, p. 92. Exanthemata viva.

‡ Hufeland, Atmosphaerische Krankeiten u. Atmosph. Ansteck.

The Italian physicians have flattered themselves with being able to produce the matter of contagion in a tangible form. Moscati, by suspending globes of glass filled with ice in the crowded apartments of an hospital, where the air was supposed to be infected, found a kind of viscid substance adhering to the outside of the vessels,[†] occasioned by the vapour which arose from the patients being condensed by the cold. Professor Hartmann[‡] further remarks, that these experiments made in the Italian hospitals prove that the basis of the infectious breath is a watery vapour, containing a very diluted animal mucus, to which the contagious matter adheres, "or rather the power of infecting, for this mucus is itself the matter of contagion." P. 76. These experiments, however specious in appearance, are very far from being satisfactory. No instance is given of this viscid animal matter being capable of producing typhus; and it is very probable that a similar product would be obtained by repeating the experiment in an apartment crowded with people in the most perfect health. The idea of contagion being a viscid substance appears to have gained some degree of currency; for Dr. Clark,[§] speaking of the hospital at Padua, where the windows of one ward are only about sixteen feet above the surface of the sluggish Brenta which flows beneath, adds, if they be carelessly left open till too late an hour, the patients are subject to be attacked by intermittents of a pernicious kind. "Moreover," he continues, "if the observations of Dr. Ragaud are correct, *gauze frames* fitted to these windows, while they admitted the air, would arrest the progress of the miasmata. This precaution might be useful in all cases where windows are exposed directly to the air of marshes."[*] P. 82.

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[*] Hufeland's division of contagion into *C. vivum,* animal contagion, and *C. mortuum,* marsh miasma, or *malaria,* is sufficiently comprehensive; the former exciting fevers of a continued, the latter of an intermittent type. In the early state of society, it seems probable that fevers must have occurred, and that they originated rather from the soil than from a crowded multitude. The exciting cause of fever from telluric influence possessing little or no vitality, it could not produce the peculiar action requisite for its own reproduction; its activity, therefore, was speedily extinguished. The want of that active principle in marsh effluvium which belongs to animal contagion, prevents its adhering to inorganic matters so as to produce fomites. It seems, therefore, not irrational to suppose, that the intermittent was the original form of fever. Climate and other causes occasioned those reduplications of paroxysms which produce the remittent form, and improper treatment would contribute its share to render the paroxysms more and more obscure. Many excellent physicians have suspected even intermittents to be contagious, and among others my late friend, Dr. Clark of Newcastle, a physician of great experience, and one who paid much attention to the subject of fever, which he considered as a simple form of disease. Thuessink also in his description of the fatal fever which raged at Groeningen in 1826, decidedly maintains its contagious nature. "I have often observed," he says, "the simple intermittent to be infectious, and spread from one person in the same house to another; as is also believed by Hecker, Von Hoven, and Horn." The same opinion is also held by his translator, Dr. Gittermann. It remains, however, for future observers to determine this obscure point. An expression in the Septuagint, *Ανεμοφθορια,* has been referred by commentators (Schleusner, &c.) to a depraved or corrupt state of the atmosphere, but being joined to Ικτερος, it seems more probably to mean *contagium mortuum* or *malaria.* The word Πυρωσις also, joined to Ικτερος, appears to corroborate this opinion. The passages are Chron. ii. c. 6, v. 28, *ανεμοφθορια και Ικτερος,* and Amos, c. iv. v. 9, *επαταξα υμας εν πυρωσει, και εν Ικτερω.*

[*] *Ueber Contagien, Miasmen, und Gifte. Leipsig,* 1822.

[†] *Dr. Granville's Letter on Plague and Contagion,* p. 16.

[‡] *Die Theorie d. ansteck. Typhus.*

[§] *Medical Notes on Climate, &c.*

To prove that contagion is not propagated by excrementitious matters, many nauseous and disgusting experiments have been tried by medical men upon themselves. But as these filthy potations are not absolutely conclusive of the fact, it seems rather a kindness to suppress the names of the experimentalists. A cannibal is a more delicate animal. Besides, we know that attempts have in vain been made to inoculate small-pox with blood, saliva, and perhaps by many of the excretions. Dogs eat with impunity various diseased parts, but the plague has been produced even in them by injecting bile and urine into the blood-vessels. A Monsieur le Blanc is quoted by Professor Thuessink as having frequently seen wounded men in hospitals placed in the beds whilst still warm, (see Hodge's Loimologia, p. 27,) and fouled with the vomiting and excrement of patients just dead of yellow fever. Though productive of no bad effects, the learned Professor very justly reprobates such conduct, as doing no credit to the hospital. Medical men may perhaps claim the privilege of being filthy themselves, but they have no right to tamper with the comfort and delicacy of their patients.

Hoffmann refers the cause of plague to putrefaction,—an opinion held by Galen respecting pestilential diseases, and first impugned by Fracastorius in his dispute with Monte, Professor at Padua. Even so acute an observer as Assalini speaks of the putrid blood and ichor of a bubo thrown upon his hand. But Chenot compares the contents of a pestilential bubo to that of a common abscess. "*Bubo vel natura vel arte maturus, postquam incisus est, pus album crassum, læve, æquabile effluit.*" Neither do bodies dead from plague putrefy sooner than from other diseases, although the nerves and muscles are said to be remarkably soft.[*] And Pugnet says the bodies are "*d'une mollesse et d'une flaccidité remarkable, flasques et flexibles.*[†]

Innumerable instances might be quoted to prove that putrefaction does not produce epidemic diseases, or even contagion, nor apparently increase their virulence. Dr. Wittmann informs us that in Turkey the cemeteries are extremely offensive in hot weather, the bodies when interred being scarcely covered with earth; yet no instances are given of bad effects arising from the putrefaction. He adds, "Ibrahim Pacha was positively encamped on the burial-ground of El Arish, where the bodies of several thousand persons who had fallen victims to that disease, plague, during the last six weeks, were interred; and his own tent covered a part of the graves;"—a pretty strong proof of the innoxiousness of the exhalations, for no notice is taken of any bad effects having occurred from the site of the encampment. In the plague of Moscow[‡] upwards of a thousand bodies, which had been concealed during the epidemic under the floors and behind the wainscot or walls of houses, in order to prevent the survivors being subjected to the horrors of quarantine, were removed and buried in churchyards, without a single instance occurring of further infection. This fact is sufficiently known from De Mertens and Orræus; but the following account of exhumations in Professor Schraud's *Geschichte der Pest in Sirmien,* is still more in point, and contains much information and many curious circumstances not generally known in this country. Here, as at Moscow, bodies had been buried or concealed rather in improper places, in order that the survivors might escape the much dreaded quarantine, or being cooped up in those dreadful receptacles of misery, pest-houses, as they are appropriately named. In removing these bodies every precaution was used to avert the danger of infection. Iron tongs were used to lay hold of them, and hooks to pull off the clothes. At first only those persons were employed in this duty who had experienced the plague, under an idea that they were less liable to be re-infected; but not being in sufficient number, others were taken who had neither suffered from plague themselves, nor attended upon plague patients. These people were recommended to dip their shirts in vinegar;

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[*] In our translation of the Sacred Writings, the word *cleave* is used to mark the attack of plague. "The Lord shall make the pestilence cleave unto thee." Deut. c. xxviii. v. 21; but in the Septuagint the expression is still stronger, *Προσκολλησαι* (shall glue) *Κυριος εις σε τον θανατον*,—here, as in many other parts, *θανατος* is synonymous with *λοιμος*. Luther, in his elegant and nervous version of the Scriptures, instead of pestilence, which is too indefinite, uses *bubo;*—very characteristically expressed by Sterbe-Drüse, gland of death. In the same chapter, v. 27, "Botch of Egypt," (*ελκει Αιγυπτιω*) by many commentators referred to lepra, is more justly referred by Luther to plague, and translated Drüsen Egypti, glands of Egypt. The same term is used in the reformed translation. (Reformirtes Uebersetzung.)

[*] Bach Grundzuge, z. e. Pathologie, p. 183.

[†] Memoires sur les fievres de mauv. caractere, p. 147, 167. Samoilowitz ueber die Pest, p. 99.

[‡] *De Mertens, Observationes Medicæ de Peste.*

to fasten a sponge wet with vinegar before their noses; to wash their hands frequently with vinegar; and when at work, to sprinkle the corpses with it. At night they were ordered to use frictions with oil. But these regulations could only be enforced during the two first days; for afterwards the grave-diggers carried on the work with the utmost carelessness, trusting to an abundant supply of wine as the only preservative. In this manner 1334 bodies were disinterred and carried from various parts to the public burying-ground; and an employment, which at first appeared extremely dangerous, was completed without the smallest accident. They even raised from the graves, with their naked hands, portions of bodies separated by putrefaction. Children they bore in their arms to the hearses, merely drying their hands, fouled with putrid matter, upon the grass. Many searched the clothes of the dead, taking off the silver buttons and other ornaments, and decked their wives with the head-dresses of the deceased. One of these men, who had not had the plague, pulled a ring from the finger of a corpse and placed it upon his own. Although occupied three months in this business, none of these people were infected; but one who had never had the plague, and remained quite well during the raising of several dead bodies, was soon afterwards seized with plague when employed in purifying the pest-hospital at Krushedoll. The other grave-diggers remained healthy, and when the business was finished, they were dismissed after passing the proper quarantine or *contumatz*, as it was termed.[*] This immunity of grave-diggers is likewise noticed by Frank.[†] The results of these exhumations, given by the medical men who superintended them, are interesting. Dr. Buday's report mentions, that the depth at which the bodies were buried was various; some were one or one and a-half fathoms deep, others were only covered by a foot of earth; but in general the depth was three or four feet. Many of the bodies were covered with a white mould, as if sprinkled with lime. The deeper the bodies were laid the less were they decayed. The same remark is made also by Orræus, who says, deep inhumations retarded putrefaction.[*] Bodies buried in a wet, marshy, or clayey soil, were but little corrupted, though they smelled so intolerably that the grave-diggers were often obliged to retreat for awhile. In cold shaded places, and under falls of water, they were least of all corrupted; and in one of these places a female long buried appeared as if only just interred. Bodies enclosed in coffins or in woollen clothes were less decayed than those without coffins or dressed in linen. Bodies buried upon eminences exposed to the sun, in a loose sandy soil, and not deeply covered, were generally so much decomposed, that only the skeleton remained, which could easily be raised by a single person. They were pressed quite flat, and emitted very little smell.

Dr. Steele reports, that bodies exposed to the free air putrefied sooner than those interred. Two bodies found unburied in a wood, father and son, who had fled thither after the death of the mother of the family, were so decayed that only the bones remained; but that of the woman, which had been buried five feet deep, though extremely putrid, was still tolerably entire. In the same grave were found bodies fully clothed, and others covered only with a shirt; the former were almost recognizable, but the latter were completely putrefied. Two bodies buried nine feet deep, and in water, though long in the ground, were but little decayed compared with such as were buried only half as deep and in a dry soil. Into one grave quicklime had been thrown, but it had merely covered the face of the corpse and formed a crust upon it, which required some force to separate; the face was quite unhurt and cognizable, but the other parts of the body, untouched by the lime, were much decayed. From the above facts we gather that bodies dead of plague soon lose the power of spreading contagion;[*] and that, contrary to popular prejudice, deep graves and quicklime do not so soon destroy bodies as shallow graves in a dry soil.[†]

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[*] The barbarous word *contumatz* used instead of the more expressive, *Gesundheits probe*, trial of health, is borrowed from the Italian *contumacia*, common quarantine; *star in contumacia* signifies being in quarantine, and also the crime of disobedience to the holy church, much more to be dreaded than quarantine itself. Dante. Purgatory makes the punishment thirty times the period of the refractory state. It is true that he who dies (excommunicated) in disobedience of holy church, must-remain without this thirty times the period of his presumption.

Ver' è che quale in contumacia muore
Di santa chiesa, ancor ch'al fin si penta,
Star li convien da questa ripa in fuore
Per ogni tempo, ch'egli è stato, trenta,
In sua presunzion.—*Purgatorio*, c. iii. 136.

A quarantine of one hundred years on the banks of the Styx was inflicted on those whose bodies lay unburied.—Virg. Æn. vi. 327, *et seq.* from whom Dante has borrowed the idea.

[†] "Vespillones, qui peste mortuous sepeliunt, et ministros qui peste adfectis inserviunt, vix unquam morbum contrahere;—In hoc eodem Nosocomio vidi vespillones, qui vestes ægrorum pridie ex peste mortuorum induerunt." *De Peste Dys. et Opthalmia Ægyptiaca*, pp. 62–3. Orræus gives nearly a similar account. "Sæpe Jassiæ miratus sum, a permultis cadaueribus, in plaustris accumulatis a vespillonibus obuiam ductis, nullam mephitidem naris feriisse."—*Descript. Pestis quæ anno* 1770, *in Jassia, et* 1771, *in Moscua grassata est.* These instances seem to show that contagion is destroyed by death.

[*] Orræus notices with surprise the slowness with which bodies putrefied in the plague at Moscow, and notices the same occurrence during an epizootick in Prussia. "Cadauera boum ex lue enectorum sat profunde defossa, decem et plures annos incorrupta fere permaneant," p. 163. It appears doubtful whether this may not rather be referred to the depth of the grave.

Peculiar smells have been very generally connected and even identified with contagious diseases.[‡] Lord Bacon compared the smell of plague contagion to that of mellow apples, or *May flowers*. The exanthemata have a peculiar smell, especially small-pox, though it may be produced merely by a morbid change in the secretions, and quite independent of contagion. *Pugnet* says the smell of patients in plague is insupportable; and Dr. Buday, cited by Schraud, asserts that the smell of plague was very perceptibly spread to some distance round the patient, and was so distinctly marked as often to guide him in his diagnosis.[§] When going into the hospital about sunset, he says he often felt a pungent vapour affect his nose, exciting a desire to sneeze. It affected also the eyes of the grave-digger, one of whom entirely lost his sight. The excretions likewise partook of this peculiar smell; but probably a good deal of fancy may be here mixed with some truth. Brandis[‖] appears to run into the opposite extreme when speaking of the peculiar smells of contagious and epidemic disease. He asserts that they produce as little effect upon those who smell them as seeing the patient or hearing him speak. No one, he says, has, by smelling a patient, ever caught the itch, or dysentery, or miliary fever; but in answer to this assertion we may ask if the same can be said of small-pox.[¶] Upon the present subject, Ritter,[*] in an excellent prize essay, makes some curious remarks. The want of ablution, he observes, occasions that insupportable and specific smell which the soldier, when in mass, spreads around him, and which differs in different nations. The smell of Hungarians and Croats differs from that of German soldiers; and an English regiment smells extremely different from a Spanish, Bohemian, or Dutch one. This specific smell of different classes of men may be attributed to their mode of life and employment, as well as to their domestic and national customs. He further asserts, that blindfold he could point out the particular trade of an artisan, or whether he was a Jew, a peasant, or a person living unemployed in extreme poverty; for indigence discovers itself by a peculiar nauseous smell, arising from the accumulation of animal vapours, which surround the body as it were with a halo. It may here be remarked, however, that Orræus and Chenot both assert there is no peculiar fœtor observable in plague. The peculiar smell of the breath in small-pox seems to indicate the lurking contagion; and neither in this, nor in any other cycloid disease, have we direct evidence that the emanations from the body are contagious, independent of those of the lungs. The smell of land is well known to mariners; marshes and mud-banks emit a faint, unpleasant smell, as if to warn us of danger. "*Les marais*," says a lively writer, "*peuvent être considérés comme les plaies infectes de la terre d'où s'élèvent, à de grandes distances, la langueur et la mort.*"[†]

In what manner contagion enters the human body has been a matter of considerable dispute. In consequence of nausea and vomiting occurring so frequently after the supposed attack, the stomach has been conceived to be the part primarily affected. But if, as appears most probable, contagion be a gaseous matter, it would not in that state easily force its way into the stomach. If, in a more solid form, there is reason to believe it would be acted upon by the stomach, and destroyed, as noticed by Plater, who says, "*cepa ad maturationem bubonis applicata sine noxa devorata.*" This is related of Jonas Justus, when a boy, so celebrated in the History of the Reformation.[‡] Small-pox matter also, and the expectoration of consumptive persons, have been swallowed without harm, though all such poisons are extremely active when applied to organs where assimilation does not take place, or at least not very speedily. Thus in peculiar constitutions muscles, crabs, &c. produce very violent effects when not quickly acted upon by the stomach, but they afford a mild nourishment when the organization has sufficient power to assimilate them.* Desgenettes† drank with impunity from the glass of a patient in plague, who died an hour after. In like manner the saliva of a hydrophobic patient has been received into the stomach with impunity;—two very curious and well-authenticated instances of which are related in the Saltzburg *Medizinische Zeitung*. Omodei considers the following only as negative proofs of non-infection by the stomach, where it is said, "*I cani veduti da Deidier, Valli, e Desgenettes mangiarsi impunemente le carni degli appestati, ingollarsi le marcie, e lambire le piaghe dei carboncelli.*"‡—Upon this subject Professor Hartmann expresses himself rather differently, "The acute, and (in the cause of humanity) so intrepid Valli has shown that the matter of hydrophobia, small-pox, and plague, (consequently also of typhus,) which, when inoculated, unmixed, produce their peculiar diseases, remain inert when previously mixed with the gastric juice."§ To the absorption of contagion in a gaseous form by the external skin, as supposed by Soemmering and others, it may be objected, that absorption, as proved by late physiological experiments, is carried on through that channel with too great difficulty. In a solid form it might be absorbed through the skin with the aid of friction; but the clothes afford such protection, that we must suppose the contagious matter to be applied intentionally, if it ever enter the body by this channel. Professor Soemmering‖ carries his ideas of external or cutaneous absorption so far as to suppose the tumefaction of the abdominal viscera, after protracted intermittents, to be occasioned by the febrile miasma taken in by the lymphatics, and applied directly to those parts: but were this opinion correct, we might expect buboes to occur also in intermittents as commonly as in plague. The reception of contagion into the body has been compared to the effects of magnetism¶ and electricity, owing to the suddenness with which many have supposed themselves to be infected. Antes informs us, that in Egypt, when a person supposes himself infected by the plague, he will exclaim, "I am struck or smitten;"* but in many instances this is purely ideal; for in typhus a peculiar burning state of the skin, *calor urens or mordax*, often imparts such a tingling sensation to the fingers as to excite apprehension; and the sickening soon after such a feeling, or the perception of a bad smell, is certainly referred to such a cause. Fewer objections appear to occur to its introduction by application to the mucous membrane lining the mouth, nose, fauces, and lungs; they are always in a proper state of moisture, and afford an extensive vascular and nervous surface most favourable to absorption; and by these surfaces only we are warned of those impure mixtures in the air which affect respiration, or are otherwise prejudicial to health.

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[*] Omodei remarks, "Il contagio è un prodotto della vita e non della morte." "Contagion is a product of life, not of death."

[†] It has been proposed, I believe, by Professor Osiander, to cover bodies dead of plague with charcoal, in order to correct the fœtor and destroy contagion, a precaution which is rendered quite unnecessary by the above facts. Besides, if charcoal converts the body, as is said, into a kind of adipocire, common burial must be preferable, as more favourable to the disorganization of the body.—Works by Shaw, iii. 168.

[‡] Sprengel Institutiones Medicæ, Vol. ii. p. 68.

[§] "Halitus ex ægrotis emanans interdum acre quid habuit, quod in adstantium ore fere sensum comesti piperis cieret; in progressu morbi mucidus ille potius, quam putridus odor sentiebatur, qui toties contagii comes est." Lohnes de Utilit. Hydrarg. in Typho. Tubing. 1814.

[‖] Pathologie o. Lehre v. d. Affekten des lebend. Organismus, p. 102.

[¶] Bernhardi's Handbuch d. allg. u. besonderen contagienlehre, p. 28.

[*] Abhandlung von den ursachen ansteckender Krankheiten. Leipsig, 1819.

[†] "Marshes may be considered as the infectious sores of the earth, from whence arise languor and death."—*Julia*, *Recherches sur l'Air Marécageux*, p. 6.

[‡] Schnurrer Materialien, &c. p. 97.

(*To be continued.*)

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* Pathologie oder Lehre von den affecten des lebenden Organismus. Von J. D. Brandis. Copenhagen, 1815.

† Histoire Médicale de l'Armée d'Orient.

‡ "Dogs were seen by Deidier, Valli, and Desgenettes to eat with impunity the flesh of those who died of plague, and to devour the pus, and lick the sores of the carbuncles."—Annali di Medicina, 1823. P. 367.

§ *Die Theorie d. ansteck. Typhus*, p. 89.

‖ De Morbis Absorbentium, p. 13.

¶ The somnambulist, as he is improperly termed, is placed, by certain emanations radiating from the body of the magnetizer, in an intermediate state of sleeping and waking. His external senses are sealed up, but his internal perceptions become exalted. He is rendered acutely sensible to every feeling, and to every want of the magnetizer; and substances acting upon the latter are instantly transmitted to the patient. Without ever erring, the somnambulist can by taste distinguish magnetized water, though imperceptible to every one else. The same acuteness is applied to smells. A person is supposed, therefore, to be in a state similar to the above, who, being placed within the active sphere of a contagion, is acted upon by a certain influence or emanation from the sick, which at the instant of infection imparts to him a peculiar smell imperceptible to every other person present. A summary of this obscure and perplexing, yet interesting subject, is given by Sprengel.—Institutiones Medicæ, Vol. ii. p. 290. In Kluge, Versuch einer Darstellung des Animalischen Magnetismus, 1818, is contained a very interesting history of its rise and progress, with an astonishing number of references to the almost innumerable writers on animal magnetism; and in Frank's Praxeos Med. Universæ Præcepta, vol. ii. 1. p. 461, a storehouse of medical knowledge, are contained some very amusing dialogues between the author, and some patients, whom he had, by magnetic manipulations, brought into a state of crisis or somnambulism. Professor Wolfart's magnetizing institution at Berlin, and the mode of operating in the wonderful cures said to be performed, are very impartially described by Dr. Meissner, Bemerkungen aus der Taschenbuche eines arztes, p. 21.

* Wolmar compares the effects of plague contagion on the body to the explosion of gunpowder.

From the London Medical and Physical Journal.

ON ONE OF THE FUNCTIONS PERFORMED BY THE LIVER, *More Particularly in the Fœtus, and in Amphibious Animals.* By EGERTON A. GENNINGS, Member of the Royal College of Surgeons.

In this paper I shall endeavour to show that the liver, like the lungs, possesses the power of *decarbonizing the blood*. I am aware that other persons have entertained a similar opinion, but several facts are here detailed which have not been, I believe, previously observed; or, at least, have not been publicly stated.*

If we examine the circulating system in different animals, we shall find some that require the blood to be constantly exposed to the influence of oxygen; others that can support life for a considerable time without such exposure; and a third class that live without ever having their circulating fluid exposed to its influence.

In the first class, or those that require a constant supply of oxygen, the greatest diversity is observable in the apparatus by which the blood is exposed to its influence. In those animals which have a double heart, and double circulation, lungs are used; in those that have a single heart, and a single circulating system,—under which head fall fishes and the *arachnida*, or spider class,—gills are the organs employed; while, in the incubated egg, oxygen exerts its influence on the blood through the medium of a membrane attached to the shell. Thus we see in those animals to whom respiration, or a process similar to it, is most necessary, that a diversity of means are used to effect the same purpose. But in these, and in all other animals in whom a circulation exists, a liver is found, composed of an aggregation of minute glands, through which a large portion of the blood, when loaded with impurities, is obliged to circulate.

I have said that in all animals that have a circulation a liver is found, and in no others does it exist; although they may have a stomach for the digestion of food; and in some of them, as will be shown hereafter, even a fluid similar to bile is secreted.

Those animals which belong to the second and third classes, into which I have for convenience divided them; namely, those that can support life for a considerable time, and those that can live altogether, without the exposure of their blood to the influence of oxygen, show most decidedly the important connexion that exists between the liver and the circulating system.

In the former of these—amphibious animals, and those birds that are good divers,—we find that, in proportion as they are able to suspend the process of respiration, the liver increases in size. Amongst birds, the Divers, or those arranged under the genus *Colymbus*, have the smallest lungs and the largest livers. The cormorant, also, (*Pelecanus Carbo*,) is an excellent diver, being able to suspend its respiration for a considerable time. Its liver is very large, while its lungs are comparatively small. In this bird, (as also in the other divers,) not only does the blood from the mesenteric, splenic, pancreatic, and gastric veins pass to the liver, but, from the very large vessels by which the mesenteric vein communicates with the veins emptying themselves into the cava and iliac veins, the blood passes with equal facility either through the vena portæ or the vena cava. So that when the bird is deprived of air, by diving, an additional quantity of blood is passed through the liver, in consequence of the pulmonary circulation being obstructed. In so small a bird as the *Fulica atra*, or common coot, I have, without difficulty, injected the system of the vena portæ from the iliac vein.*

The structure of amphibious animals show a still more complete arrangement for the transmission of blood to the liver, when the respiration is obstructed. In them the liver is always very large. In some of them, as the frog, the circulation is carried on by a single heart; so that, when the lungs do not perform their functions, the obstruction of the circulation through the branches distributed to them does not interfere with the general circulation. In others, as the otter, although a double heart and circulation is found, a communication exists between the two sides of the heart, through the foramen ovale, so that when the pulmonary circulation ceases, the blood passing immediately from the right to the left side of the heart, a single circulation, like that in the frog, is immediately established.

In those animals that have the circulation carried on entirely without the blood being exposed to oxygen, the liver is proportionably larger than in any other. Thus, in the fœtus in utero, the liver is one of the first organs developed, and is by far the largest organ in the body. It is thus large, too, at a time when it should be the smallest, if it be true that the sole function of the liver is the secretion of bile to assist in digestion.

If the early formation of an organ be any proof of its great importance in early life; and if the service to which it is first devoted be any guide to the function it is ultimately to perform, the liver must be of the greatest importance to early life, and its function must be subservient to the circulation. The first of these assertions is proved by examining the incubated egg: for we find that the liver is developed as early as the fourth day of incubation, although at that time the heart is not developed, and the lungs do not appear until a day or two afterwards. That its function is subservient to the circulation, is proved by the veins first formed all terminating in the vena portæ; the circulating fluid being thus obliged to pass through the liver. As the gall bladder does not appear until a day or two later, the liver cannot be engaged at this time in the secretion of bile.

Having thus endeavoured to show how closely the liver is connected with the circulation of the blood, I shall, in the next place, endeavour to prove that the service it performs in the digestion of the food is but of secondary importance.

M. Cuvier has proved that the conglomerate glands which constitute the liver exist in all animals that have a circulation, and do not exist in any that have not a circulation, although in them digestion takes place. Amongst insects this fact is strongly marked. They are divided into two great classes; the *Arachnida*, comprising the spiders and scorpions, and the true *Insecta*, which comprise all other insects. In the former a circulating system is found, and also a liver: in the latter there is no circulating system, and no liver. What is particularly remarkable, and perhaps shows more decidedly than any other fact that the liver is subservient to the circulation, is this, that, although in the latter, there being no circulation, no liver exists, yet bile is secreted for the purposes of digestion from small, slender, filiform vessels, which empty their secretions into the alimentary canal. If the conglomerate glands constituting the liver in all animals having a circulation, be merely formed for the secretion of bile, why this deviation from the ordinary structure, which prevails in animals so closely resembling them in other respects, as the *Arachnida?* Moreover, we learn from the examination of some of the *Zoophytes*, that digestion may take place where a stomach only exists,--no liver or alimentary canal being present; the secretions from the stomach itself effecting all the necessary changes in the food.

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* See Ornithologia, by J. Jennings, p. 55.

* It may be mentioned also as a curious fact that birds of the Struthious class, (as the ostrich and cassowary,) from the rapidity with which they run, and are therefore liable to have their respiration suspended, have also large livers and small lungs.

Are we not, then, justified in concluding that, as we find digestion taking place in some animals without a liver, while in others bile is secreted from small vessels into the alimentary canal, this organ is but of secondary importance in the process of digestion.

On the other hand, are we not also justified in concluding that an organ, which is universally found where there is a circulating system, and there only, which is of comparatively small size where the respiration is perfectly performed by lungs,--which increases in size in those animals which have gills as an imperfect substitute for lungs,—which is found still larger in amphibious animals, whose circulation is occasionally suspended,—and which is the largest organ in the body in the fœtus, whose circulating fluid must be purified entirely without exposure to oxygen,--are we not, I say, justified in concluding that the primary function of such an organ must be similar to that of the lungs: that it must be subservient to the circulating system.

It may be objected that if, as I suppose, the liver does in amphibious animals perform the function of the lungs, these animals could live entirely without respiration. But how frequently do we see in the animal economy, when two organs are engaged in performing the same function, that one organ is able to perform almost the whole duty of the other, and yet cannot entirely dispense with its assistance. This is particularly the case with the skin and kidney. When one secretes copiously, the other enjoys comparative rest. From the length of time that some diving birds and amphibious animals remain under water, it is certain that death would result if the blood were not deprived of its impurities by some means; and certainly their anatomy shows that provision is made for the passage of an increased quantity of blood through the liver, that organ being proportionately increased in size to enable it to perform so important a function.

With regard to the function which I suppose it to perform in the fœtus, it may be said that the placenta purifies the blood. I grant the importance of the placenta; but we know that the principal change produced in the blood is the separation of carbon from it. This the placenta cannot effect, for it throws off nothing; while we know that the liver separates an amazing quantity of carbon during uterine life. This is proved by the quantity of carbon contained in the meconium; which secretion, as it cannot be of any use in the digestive process, can only be looked upon as a quantity of useless matter thrown off from the general system.

In what I have hitherto said it has been my object to point out, more particularly, the functions of the liver in amphibious animals and the fœtus. In them the other organs concerned in the purification of the blood being less perfect, the liver is found proportionably more developed. But, in animals that have a perfect respiration by lungs, even in man himself, we may observe many facts that point out the close connexion existing between this organ and the organs of respiration.

All who have observed the human subject must be aware that the liver is assisted by other organs in the performance of its function. For instance, the well known fact, that after severe burns, which have rendered a large portion of the skin unable to perform its function, persons will frequently die of suffocation: this shows that the lungs and skin both perform the same function, or so great an oppression of the lungs could not be produced by such a cause.

When a European is exposed to a tropical climate, where, from the state of the atmosphere, but little carbonic acid is formed during respiration, in what way do we find the circulating fluid purified? For a short time the skin, which is generally acknowledged to assist the lungs, acts profusely. Presently, however, the skin becomes dry and arid, and bile is secreted in such quantities as completely to disorder, instead of assisting, the digestive process.

It is true we cannot point out the manner in which the liver effects its changes in the circulating fluid, with the same precision that we can explain the function of the lungs; but, while there are so many circumstances connected with secretion that we are unable to account for, let us not presume to say that an effect cannot be produced because we cannot follow nature through every step of her process. Let us rather carefully observe the organs she finds necessary for effecting her different purposes, and acknowledge their use, though unable to account for their actions.

Leamington Spa, Warwickshire;
August 8th, 1828.

P. S.—Since the above paper was written, I have had much pleasure in reading a note by Dr. Elliotson, in the edition of Blumenbach's Physiology which he has recently published, in which he has mentioned many facts tending to support the same view of the function of the liver which I have endeavoured to advocate.

From the Revue Medicale, &c.

SUR L'EMPLOI DE L'IODE CONTRE LES TUMEURS DU SEIN. Par M. le Docteur Bayle.

One of the most important acquisitions which the healing art has made in modern times, is, without contradiction, the application of iodine to the treatment of diseases. Since the excellent work upon this medicine, by Dr. Coindet, who has the honour of having been the first to employ it, a host of physicians, both in France and other countries, have verified the clinical results of the Swiss physician, and demonstrated the practical utility of his discovery. MM. Magendie, Benaben, Gimelle, Sablairoles, &c. in France; Brera, in Italy; Hufeland, Formey, Decarro, Locher-Balber, in Germany; Baup, Irmenger, in Switzerland; Manson, Gairdner, Baron, in England, &c. have published a mass of facts, which evince the efficacy of the ioduretted preparations, not only in the treatment of goitre and scrofula, but also of a multitude of other diseases, more or less refractory to other therapeutic means.* Indurations of the breast are unfortunately among the number of those which too frequently resist the most methodical and skilful treatment. In these iodine has also been employed, but upon too small a number of patients to enable us to form a positive opinion of its efficacy. I am acquainted with but two instances, one reported by M. Benaben, and the other by M. Gairdner, an English physician, to whom we are indebted for an interesting pamphlet upon iodine.† In both cases, a cure was effected. I will relate both of them, after having detailed an analogous fact of which I have just been witness, where the iodine was employed with complete success; they will be followed by a fourth, in which the tumour of the breast was of a cancerous nature.

Case 1.—Madame de G——, æt. 30, of a lymphatic constitution, was descended from a mother who, sometime previous to the birth of her child, had had an attack of apoplexy, the consequence of which was an incomplete hemiplegia, which continued through life. Madame de G—— had been rachitic in her infancy; her extremities were deformed, and her abdomen habitually large; she was subject to diarrhœa, and on several occasions had presented all the symptoms of tabes mesenterica. From this period her health had always been very delicate. In 1824 or 5, she married. Five or six months afterwards, she injured her right breast by a fall, which was followed by swelling and inflammation of that part; these symptoms yielded to the application of leeches, emollient cataplasms, &c. with the exception of an engorgement about the size of a walnut, which could not be removed; it was an indolent nucleus, of a medium hardness, situated towards the middle of the gland.

About a year afterwards, this woman became pregnant, and was safely delivered; she suckled her child herself, and from that period the tumour of the breast made rapid progress, and soon acquired the size of an orange. About this time, grief, occasioned by the sickness and death of her husband, contributed still further to accellerate the growth of the tumour, but as it continued indolent, little attention was given to it, and the patient applied her child to both breasts indiscriminately. After the lapse of several months, pains began to be felt in the tumour, which, however, was little sensible to the touch; hemlock poultices were directed, but instead of producing any salutary effect, they increased the inflammation already existing. From this period the tumour greatly increased in size. Leeches repeatedly applied, emollient poultices, &c. failed in preventing suppuration; and after some days, fluctuation being very evident, an opening was made, through which was discharged a large quantity of purulent matter mixed with blood. Notwithstanding this discharge, however, the indurated portion of the breast, instead of diminishing, continued rather to increase; it was larger than an orange, irregular and unequal, and occasioned little pain when handled. The poultices were productive of no advantage, and as the patient was much oppressed from their weight, they were discontinued.

About this period, (April, 1828,) Madame de G——, in her anxiety to be rid of her disease, secretly consulted a surgeon, who directed five or six leeches to be applied daily around the tumour. I saw her six or seven days afterwards, pale, dejected, scarcely able to maintain herself in an erect posture, and frequently threatened with syncope; the tumour had rather increased than diminished; the suppuration was much more abundant.

Aware of the effects of iodine in glandular *engorgement*, I directed frictions upon the tumour, with a drachm of the ointment of the hydriodate of potash, containing from four to six grains of the salt, to be made daily, and fifteen drops of the tincture of iodine to be taken internally in the same space of time. At the expiration of fifteen days an improvement was already perceptible; the pus was less in quantity and of a better consistence, and her general health improved; some gastric derangement now supervening, occasioned the suspension of the tincture.

From this period till the commencement of

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* In the first volume of the *Bibliothéque de Therapeutique*, will be found a digest of all that has hitherto been written, in all languages, relative to this valuable medicine.

† Essay on the Effects of Iodine. London, 1824.

July, when this treatment was discontinued, the quantity of the hydriodate was progressively augmented, until ultimately it was employed in the proportion of two drachms to the ounce. The internal administration of the tincture was suspended on three or four occasions, but always renewed as soon as circumstances would permit. This tincture, applied in frictions upon the tumour itself, three or four times, gave rise to general inflammation of the breast, which induced me to discontinue it temporarily, and resort to emollients; but I observed that after each of these accidents, the progress of the resolution was much more evident.

Under this treatment, continued uninterruptedly for the space of three months and a half, the tumour became in the first instance sensibly softer, and somewhat increased in size, and subsequently diminished progressively till the 19th July, when, visiting her for the last time, I found no vestige of the glandular enlargement, the breast having assumed the size and form of that on the opposite side. The pus, which at first had been serous and copious, afterwards became thicker and less abundant. On one occasion, the external opening accidentally closed, and the patient, besides tumefaction and pain of the breast, was attacked with a profuse serous diarrhœa, which may be regarded as supplementary to the discharge of the breast, since it was suddenly suppressed, when the latter was re-established. It may be remarked also, that the general health of the patient, hitherto delicate, underwent a considerable improvement; the catamenia, which had been suppressed during eighteen months, were re-established, and the digestive functions were more vigorously performed.

Reflexions.—Tumours of the breast, whatever their nature may be in other respects, are so difficult of cure when they have acquired the volume, induration, and character of the one, the description of which has just been given, that the preceding case is certainly well worthy the attention of physicians. It would be very desirable to determine the character of this tumour; on the one part its hardness, and the inequality of its surface, might induce a suspicion of its cancerous nature; while on the other, the absence of lancinating pain, and the lymphatic constitution of the patient, would rather lead to the belief of its scrofulous character; the latter opinion is confirmed by the result of the treatment. We know, indeed, from the researches of Coindet, Brera, Kolly, &c. the efficacy of iodine and its preparations in scrofulous affections, while there is not, perhaps, a single case of confirmed cancer which has yielded to this medicine. We shall, however, hereafter detail two cases very remarkable in the latter point of view.

Case 2.—A servant in one of the hotels of Paris, æt. 33, married, and the mother of several children, consulted me, observes M. Gairdner, for a tumour in the breast, which made its appearance about two years before. It was unattended with pain, but she was alarmed by its recent increase of size. The preceding year she had consulted a surgeon, who advised its extirpation. This opinion gave her so much anxiety, that she determined to consult M. Dubois, and this eminent surgeon expressed his belief of its scrofulous character. For the space of three months, all the remedies employed in this description of diseases were unsuccessfully tried. A scruple of the ointment of the hydriodate of potash, placed in the axilla at night, completely dissipated the tumour in about six weeks.

Reflexions.—This case bears a strong analogy to the preceding. It is to be regretted that the condition of the tumour is not more accurately described, and that there is nothing in the case to elucidate the nature of the disease; but the opinion which had been given of the propriety of extirpating the tumour, is a sufficient proof of its suspicious character, which again is confirmed by the inefficacy of the anti-scrofulous remedies employed in the treatment.

Case 3.—J. L——, æt. 51, had ceased to menstruate for the space of five years, and bore the impress of an extraordinary development of the nervous system, which evinced its influence in all the diseases with which she had been attacked. About eighteen years ago, one of her children bit off half the nipple of the right breast; acute inflammation supervened, and was relieved by the usual means; but an induration remained, about two inches in extent, which, for the last two or three years, was the seat of fugitive and shooting pains, recurring at remote intervals. In September last, she injured the breast by a fall upon a cane fixed in the earth; inflammation immediately supervened, and notwithstanding the remedies employed, ran through all its stages; an abscess formed, and opened spontaneously twenty-one days after the accident. Consulted at this period, I enlarged the orifice, and directed the poultices to be continued. This was on the 2d October, and by the 12th cicatrization had taken place, and all signs of inflammation had disappeared, but the primitive induration had considerably increased; there had even formed a second tumour, distinct and separate from the former, of which it had not yet attained the induration; the skin was redder than before, and the darting pain more frequent and acute. These indurations, their seat, the nature of the pain, and the age of the patient, portended the approaching cancerous degenerescence of the mammary gland. Frictions were directed with the hydriodurretted ointment, in the proportion of a drachm of the salt to an ounce of axunge; and to accellerate the cure, I was desirous to administer the tincture internally, but was deterred for a moment, by the apprehension, lest so active a medicine might produce some deleterious effect upon a woman whose constitution was so susceptible, that a common purgative draught was sufficient to throw her into convulsions. Any effect of this kind I hoped to obviate by the use of opium, and accordingly prescribed six drops of the tincture of iodine to be taken three times a day, in combination with the liquid laudanum of Sydenham. The laudanum exerted no injurious effect upon the iodine, the dose of which was progressively increased, according to the established rule; far from being hurtful, it promoted the cure, and rendered unnecessary the temporary suspension of the iodine. Such was the salutary effect of the opium, that having been omitted on one occasion, the patient rejected the iodine a few minutes after having swallowed it, and was troubled all day by a sensation of smarting and constriction in the throat. In other respects the treatment presented no peculiarity; it was begun on the 28th of October, and terminated with entire success on the 30th of November. (*Case reported by M. Benaben.*)

Reflexions.—This case is distinguished from the two preceding by characters which it may be well to bear in mind. In the former, the tumours were indolent, and the subjects presented all the marks of the lymphatic temperament; now, it is known that iodine frequently succeeds in diseases of this nature. In the latter case, the tumour was hard as in the other two instances, but it was also the seat of lancinating pains, which, rare at first, occurred much more frequently afterwards. This symptom, together with the form of the tumour, the organ which it occupied, and the age of the patient, induced M. Benaben to suppose that the disease had degenerated into cancerous affection; and it must be admitted, that it would be difficult positively to affirm that the apprehensions of this physician were unfounded.

This uncertainty relative to the nature of the disease, doubtlessly enhances the importance of the case we have just related; for the cure of a scrofulous tumour would be a fortunate, but not an extraordinary event, while that of genuine cancer, a disease almost invariably fatal, would be an important acquisition to medical science.

To remove all doubt relative to the nature of the disease in this instance, it would ne necessary that the annals of medicine should furnish us with cases of cancer cured by iodine, and unfortunately none have hitherto been recorded; the only one within my knowledge, is a case of cancerous ulcer of the breast, which, after having been considerably improved by the use of the ioduretted preparations, relapsed with increased violence, and rapidly terminated in death. The following is the case alluded to, which I shall quote entire, on account of the extraordinary changes which took place in the disease during the administration of the medicine. It is reported by Dr. Hill, in the Edinburgh Journal for April, 1826.

Case 4.—A widow, æt. 62, the mother of ten children, and possessing a constitution impaired by hard labour, had a large, deep, and fœtid ulcer, with indurated and unequal edges, situated upon the breast. The subjacent ribs were exposed, but still covered with their periosteum. Her general health was much deteriorated, and besides a small, dry, and frequent cough, she presented all the symptoms of a rapid decline. The ulcer had all the characters of carcinoma. Dr. Hill in the first instance directed the application of a raw carrot poultice, to be renewed every six hours, some laxative medicine, and Fowler's arsenical solution, in the dose of fifteen drops three times a day; pledgets of lint, wet with a dilute arsenical solution, were laid upon the surface of the ulcer, and a carrot poultice applied above. This treatment, continued for two months, effected a sensible improvement in the health of the patient, and the fœtor of the matter discharged from the ulcer was lessened. Six months afterwards, her general health was so much improved, and the aspect of the ulcer so favourable, compared with what it had previously been, that it was resolved to make trial of compression, according to the plan recommended by Dr. Young. This was employed during three months, at the expiration of which time, the edges of the ulcer appeared to have some tendency to cicatrization, but all the surrounding parts, the glands of the axillæ, &c. swelled, and became so painful that it was obliged to be discontinued.

All the unfavourable symptoms now re-appeared with renewed violence; a livid fungus sprung up from the centre of the ulcer, and gave rise to frequent hemorrhages, which were arrested by means of bole armenian and alum. Bark and opium were given internally, and the ulcer dressed with different stimulating applications. Cicatrization took place at some points, but new tubercles formed, ulcerated, and thus renewed the disease. This state of things continued with little variation about two years, when Dr. Hill having employed every means both external and internal, with the exception of iodine, resolved to make trial of this medicine, and directed the ulcer, which was six inches in diameter, to be covered twice a day with an ointment composed of one drachm of the hydriodate of potash to the ounce of axunge. Not only was this application unproductive of pain, but the patient stated that it was attended with marked relief. Some days afterwards, a solution of the hydriodate, in the proportion of thirty-six grains to the ounce of distilled water, was directed to be taken in the dose of thirty drops a day; a larger dose excited nausea and vomiting. In a few days, the discharge from the ulcer, which had been very copious, fœtid, ichorous and corrosive, sensibly improved; the ulcer itself assumed a more favourable appearance; the livid tubercles softened, and were completely detached; and lastly, the lancinating pains and hemorrhage ceased. At the expiration of a few weeks, the whole ulcerated surface presented the appearance of a simple wound, discharging pus of a good quality. All the ulcerated points round about had softened and completely disappeared; and finally, in about four months cicatrization had taken place over the whole inferior portion of the wound; the following month, this process, which extended from below upwards, had made still further progress, and this frightful ulcer was reduced to the size of a sixpence. Not only the mammary gland of the diseased side, but also that of the other, had completely disappeared—no trace of them remained. Of the whole assemblage of alarming symptoms, there now only remained a slight induration of the skin, about half an inch long, and as thick as the finger of a small child. Frictions with the ointment of the hydriodate of potash were directed to be made upon this part twice a day, in the hope of promptly effecting its removal, but in vain; the confident expectation of curing his patient, which Dr. Hill had entertained, rapidly vanished.

Notwithstanding the judicious employment of the same means, this indurated point became livid, increased in size, the ulcer broke out anew, and, in a word, all the most violent symptoms successively re-appeared, and the unfortunate patient died with all the indications of the cancerous diathesis.

Reflexions.—If the cancerous nature of the preceding cases be doubtful, the same remark cannot be made in relation to that which we have just detailed. I will not recapitulate the principal characters which it presents to us. The only point to which I wish to direct the attention of practitioners, is the treatment of the disease by iodine and the hydriodate of potash. Under the influence of this medicine we see that the tumours became softened, the lancinating pain and hemorrhage ceased, and the ulcer cicatrized almost completely. The disease, it is true, re-acquired its primitive violence, and quickly terminated in death. But it may be remarked, that in this instance all the signs of a general cancerous infection, if I may be allowed such an expression, were present. Is it not probable that if the affection had been limited to a smaller number of organs, the preparations of iodine would have been effectual in its treatment? The extraordinary melioration which followed the use of those remedies will, at least, justify such a supposition, and should induce all practitioners to make trial of iodine in this deplorable disease.

Conclusions.—Hitherto iodine has been too seldom employed in the treatment of tumours of the breast, to enable us to advance any general opinion relative to its efficacy in these affections.

In the two cases first related, the tumours, which were probably of a scrofulous character, were cured by the employment of iodine. The third is also a case of cure of a tumour in the breast; but this tumour, hard and lobulated, was the seat of lancinating pains, and may have belonged to cancer.

The fourth is a case of true ulcerated cancer of the breast, and, for a time, was much improved by the iodine; this medicine, therefore, holds out the hope of cure in other less severe cases of the disease, and should induce physicians to resort to its employment in these desperate maladies.

I may add, moreover, that a number of facts relative to cancer in various other organs, tend also to establish the utility of iodine in these affections. Thus Dr. Hennemann has published a case of cancer of the uterus, resembling the fourth case related in this memoir, inasmuch as it was temporarily relieved by this medicine. *Hufeland's Journal, February*, 1823. By the same means Dr. Hirsch has effected the resolution of indurations of the neck and tongue, which strongly resembled scirrhus. *Rust's Magazine*, 1826. Klaproth has cured an induration of the orifice of the uterus, which he considered to be cancerous. *Hufeland's Journal*, 1823. In the same Journal M. Wagner relates a case of tumour, which he calls scirrhous, and which he was prevented from extirpating, by reason of the cachectic condition of his patient, in which the iodine was equally successful. Professor Ullman strongly recommends the hydriodate of potash in cancerous ulcers, as having been productive of surprising effects in such cases. *Graëfe's Journal.* And lastly, M. Magendie, in his *Formulary*, article *Iodine*, relates two cases of cancer of the tongue cured as if by enchantment, by means of this remedy.

From the London Medical Gazette.

ON THE SPECIFIC EFFECT OF ATMOSPHERIC POISON ON VARIOUS STRUCTURES OF THE BODY, *as connected with the production of Disease—especially Fevers.* By EDWARD SEYMOUR, M.D.

The theories of the origin of fever have occupied the attention of physicians and men of observation from the earliest ages, and the opinions formed having been derived from the existing state of knowledge, generally contained within themselves no very unfair estimate of the prevailing philosophy of the period.

It is not the object of the following remarks to remind the reader of the accurate observations of the Greek school, or of the selections, with few additions, made from that school by the Arabian physicians; neither is it necessary to detain him with the errors of the chemists, the mathematicians, the vitalists, and the humoralists, who succeeded them. The eloquence bestowed on these speculations still serves to point out among the surrounding darkness some specimens of laborious investigation, and makes us regret that their authors had not flourished at a period when knowledge had become more matured.

The ancient physicians laboured under great disadvantages with regard to their investigation of the real source of disease, from being prevented examining bodies after death. The religion of Greece and Rome forbade its votaries to violate the sanctity with which it enveloped the remains of the dead; thus the talents of the great and learned men who first studied the science and practised the art of medicine were obliged to seek for the causes of disease in some prevailing system of philosophy, whose principles were believed to influence the groups of symptoms which their accurate observation has so well described.

On the revival of learning, the idolatrous admiration paid to the works of the ancient philosophers, particularly Plato and Aristotle, was of itself a great obstacle to the advancement of the true nature of disease. Scholastic disputations only served to rivet more strongly the fetters of error: and thus we find the points of doctrine which agitated the schools in the sixteenth century now principally subjects for pity or surprise.

The seventeenth and eighteenth centuries present many instances of rare and original research, and anatomy being cultivated with ardour: the appearances of disease after death were minutely described. The sepulchretum of Bonetus, the works of Spigelius and Morgagni, &c. present striking collections of such appearances. But the example was not followed by physicians generally; and we shall find that among the various epidemic diseases, of which we have histories, in which the symptoms are minutely described, the description of appearances in the bodies of those who died is scarcely ever met with, and the cause of death is not sought for in the lesion of important viscera or the long continued suspension or alteration of important functions by sympathy with the injured part, but in the prevalence of an acid, or an alkali, or the lentor or viscidity of fluids.

The few last years have been devoted by men of science, in the neighbouring countries and our own, to the lesions which are to be observed in the different structures of the human body in those who have died of fever, and the French school of medicine in particular has undergone a most important change since more accurate methods of examining the bodies of those who have died of fever have been adopted.

The generally received opinion of the origin of epidemic fever appears to be that it is the effect of a poison arising from marshes, from the exhalations of filth, crowded bodies, or from a state of the atmosphere, which in warm, moist, or variable seasons, is assimilated to marshy vapour under ordinary circumstances. The explanation of the action of this poison on the human body, and the manner in which it produces its effects, although it has reigned in the schools for more than half a century, appears to be liable to great objections, if not altogether hypothetical, and principally because it was invented by men very partially acquainted with the action of other poisons, and almost entirely ignorant of the appearances which in different epidemics were presented after death.—(Currie's Medical Reports, vol. i. p. 237.)

It appears that the truth may be approached by considering the effects of other poisons on living structures. Poisons destroy life by affecting different parts or structures, and in many instances lesions of such parts are produced, which are the immediate effect of the action of the poison.

"Dans certain cas (says M. Orfila) le poison est absorbé et porte son action meutriere sur le cerveau, le cœur, et autres organes. Quelquefois ce sont les membranes de l'estomac corrodées qui agissent sympathiquement sur les organes et suspendent leur fonctions, sans qu'il y ait lieu absorption. Enfin, dans d'autres circonstances très rares, la mort est la suite de l'inflammation de l'estomac irrité par ses substances veneneuses."—*Orfila, Toxicologie, page* 16. Vide *Mem. de Mons. Segalas, Jour. de Physiologie.*

All poisons appear to be received into the system either through the medium of the nerves or through the circulating system, or through the lymphatics, or by absorption by the lungs.

Of the first we have no direct proof: the rapid and sudden extinction of life, on the immediate application of some poisons to a wound or to the tongue, would imply their transmission through the nerves, but the experiments of physiologists have been unable to demontrate this. Dr. Barry, well known from his interesting work on circulation and absorption, found by experiment on a living animal that a poison which speedily proved fatal on insertion in a wound, when applied directly to a nerve isolated, was innocuous.*

The absorption of poisons into the system through the medium of the circulation rests on abundant evidence from the experiments of Mr. Brodie and M. Magendie, under circumstances where the agency of the nerves was entirely excluded.—(See Mr. B.'s experiments, Philosoph. Transactions for 1811.)

"I separated (says M. Magendie) from the body the thigh of a dog, previously stupified by opium: the separation was made in such a manner that the thigh communicated with the body only by the crural artery and vein. I introduced into the crural artery a tube of quill, on which I fixed the vessel by two ligatures. The artery was afterwards divided circularly; I did the same by the crural vein: by this means there was no longer any communication between the thigh and the rest of the body, except by means of the arterial blood which flowed to the thigh, and the venous blood which returned to the trunk."—*M. Magendie, Jour. Physiologie*, vol. i.

Under these circumstances, poison inserted into a wound in the leg of the animal destroyed life in the same manner as when the experiment was conducted under ordinary circumstances. The great rapidity with which absorption by the lungs takes place is a circumstance of ordinary observation, and proved by repeated experiment. Within a very short space of time the vapour of the essential oil of turpentine received into the lungs will show itself in the urine by the peculiar odour it imparts to that secretion. Mineral and vegetable poisons received into the system in any of these ways appear to extinguish life by acting immediately upon one or more of the different textures of which the body is composed. Thus the woorara poison, and the expressed oil of the laurus cerasus, according to the experiments of Mr. Brodie, appear to act immediately on the brain, whence the respiration is suspended, and consequently the action of the heart. The upas antar, and the juice of tobacco, appear to act immediately on the heart, affecting its contractility, and rendering it insensible to the stimulus of the blood, and thus destroying life.

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* The same experiment was made by Fontana and Magendie.

The nux vomica, either applied to a wound or taken into the stomach, appears to exert its poisonous influence on the spinal nerves.

Arsenic, whether received into the stomach or applied to a wound, appears to act immediately on the mucous lining of the stomach and bowels.

Lead exerts its immediate effect on the muscular structures, first altering and afterwards destroying their inherent power of contractility.

Here, then, we have known and acknowledged examples of vegetable or mineral poisons destroying life by acting upon different textures, the phenomena which occur being symptomatic of the injury which that part or power sustains.

The poisons generated by the atmosphere, by the exhalation from marshes, from the effluvia of putrid animal matter, &c. &c. have hitherto been considered to produce their deleterious effects by acting exclusively on the brain and nerves; producing, first, depression of the action of the heart and arteries: re-action succeeds; and during this latter stage injuries of structures, whose integrity is necessary to life, are produced.

This appears to me to be only one of the modes of action, for it is by no means necessary, nor is it probable, that miasmata generated in the manner related should produce the same poison, or consequently affect the same texture uniformly; and thus we find epidemic fevers in which the poison appears to act directly on the brain, and various effusions in, or lesions of this viscus, are discovered after death. Another condition of the air, affecting principally the fauces, Schneiderian membrane, and mucous membrane which lines the bronchial tubes, produces that species of fever called catarrhal.

The effluvia of marshes appear to alter the condition of the brain and nervous system, to impair its functions, producing the different kinds of ague; and it must be observed that the remedies which uniformly relieve this disease are those which diminish the increased sensibility of the nervous system, or change its action;—bark, opium, mineral tonics, or strong moral impressions, as fear, superstition, &c.

There is a large class of fevers, generally of a remittent type, produced by a poison which appears to act directly on the mucous surface of the stomach and intestines, either affecting the glandular structure, producing deep ulcers with a hard elevated edge, occasionally eating their way through the peritoneal coat; and in other cases causing a condition of the vessels of the part ending in sloughing—a condition the very opposite to increased action, and which in other parts of the body has received the name of passive inflammation.

In the various histories which we possess of epidemic sore throat, with or without eruptions, which have appeared in Europe at different times, it must be obvious that the degree of affection of the mucous membrane of the fauces was the measure of the danger of the disease. The poison generated in the atmosphere absorbed into the circulation, produced its specific influence on the mucous membrane of the mouth and fauces, in many cases filling with blood, more or less actively, the capillaries of the cutis. Had the poison generated in the air, and afterwards, rendered more violent, as we know it is, by the exhalation from crowded bodies, affected specifically any other portion of the mucous surface of the interior of the body, it is probable that a thousand vague hypotheses would have been invented to account for the origin of symptoms which in reality denoted the rapid injury done to an important and highly sensitive portion of the body. Morton, the first English writer on this disease, attaches the whole importance to the injuries of the mucous surface, afterwards spreading to the adjacent glandular structures.

"Si quando venenum istius modi crisi perfectâ per cuticulam propelli haud potest, tanquam venenum pestilentiale glandulas sponte petit, narium, faucium, inguinum easque inflammat et exulcerat necnon carcinoma, parotides, et bubones, excitat. Quantum tonsillas, uvulam, fauces, nares et quamdiù in tumuisse vidi, quam sordidâ scabie obducta ab eâdem causâ animadverti."—*Morton de Morbillis et Febre Scarlatinâ*, cap. iii. case 2.

In the severe forms of this disease the accompanying fever is of that kind to which Dr. Cullen has assigned the characters of typhus. Here then is an instance of an atmospheric poison acting directly on a mucous membrane producing typhus fever. We have already observed, and shall have occasion to recur to the subject, that atmospheric or marsh miasmata, acting on another portion of the intestinal canal, produces also low fever, with afternoon or evening accessions.

The name typhus fever has been very generally applied, of late years, to designate any fever in which the symptoms at any period assume a low character, without reference to the injury of the viscus or viscera which produces the disease, although daily experience proves that these symptoms arise after manifest injuries of different parts.

A blow is received on the head, by which lesion is produced; an operation according to the circumstances of the case affords relief, but where this relief is either not applied or fails in success, the patient dies with all the symptoms which characterize typhus fever—an extremely quick and feeble pulse, a brown dry tongue, with sordes on the teeth, stupor alternating, with low muttering, delirium, and unconscious evacuations. After amputation, or bleeding, it occasionally happens that a vein inflames: sympathetic changes in the nervous and sanguiferous systems ensue—the same train of symptoms which occurred in the former case follow, and the patient dies. Here, then, the same set of phenomena occur which take place when the poison of the atmosphere, or the exhalations of marshy or foul districts, attack different structures of the human body—the symptoms, which arise early when the disease proves severe, late when the patient is to recover, still receive the same name of typhus. Is there manifest and early headach, with loud delirium, which, when relieved by evacuations, subsides into low muttering, with nervous twitches, great thirst, brown tongue, and trembling throughout the body, the word typhus is used to convey the nature of the fever, although, after death, lymph is found between the membranes, or at the base of the brain, and effusion of the fluid in the ventricles. Is an individual attacked with debility, headach, and diarrhœa, the abdomen full, and giving obscure sensations of pain, or the recti muscles strongly contracted, giving a sense of great hardness to the touch; the tongue dry and red, or loaded in the middle; flushings of heat, particularly in the evening, at which time the pulse is extremely quick; delirium ensuing in severe cases violent, in long cases much less so, and in some cases absent altogether, according, probably, to the degree of nervous sensibility with which the patient is endowed—do these symptoms continue for a considerable time, when the abdomen is ordinarily more painful on pressure, the tongue dry and brown, and the teeth encrusted, the sphincters relaxed, occasional starting of tendons takes place, and death occurs—still, in the common language of medical men in this country, the word typhus is employed to designate the disease, although, on examination, the whole glandular structure of the small intestines is in a state of fungoid ulceration, and in most cases the brain and its membranes, to whose impaired functions and subsequent lesion the disease in the former case is to be attributed, are to all appearance unimpaired and healthy.

If there were wanting other proofs of the action of atmospheric or animal poisons uniformly on different structures, the consideration of the measles and small-pox would be sufficient to excite reasonable belief of their existence. The severity of the symptoms of measles is in direct proportion to the severity of the inflammation of the membrane which lines the bronchia, nares, and eyelids; an affection of the membrane which covers the body occurring after the first mentioned symptoms have commenced, and showing that to the mucous structure is confined the action of the poison.

In Dr. Home's Clinical Experiments, published 1778, is an account of a dissection, which places the seat of the disease in a very clear point of view.

"When the body was opened, the trachea was found filled with matter of a purulent appearance, but no preternatural membrane r ulceration were seen. The internal membrane of the trachea was much inflamed, but no eruption or pustles were found on it, nor was it preternaturally thickened. On cutting into the substance of the right lobe of the lungs, a considerable quantity of blood flowed from the incised vessels and cellular membranes, and some of the smaller ramifications of the bronchi emitted the same purulent matter before mentioned. On cutting the left lobe the blood-vessels were much less filled with blood, but the smallest visible ramifications of the bronchi seemed every where filled with purulent matter. The lungs had no adhesions, and externally were of a natural colour. About two or three ounces of water were found in the pericardium. Abdominal viscera natural."

It is to be remarked, likewise, that the poison of this disease, as well as of small-pox, whether introduced into the circulation by absorption, by the lungs, or from a wound, acts equally as the known mineral and vegetable poisons on the same structures, and that the symptomatic excitement of the nervous and circulating systems is in exact proportion to the violence of the injury to the structure attacked.

There is another disease which is known to arise in warm and marshy situations, and in rainy seasons in hot climates, and has destroyed by its virulence numerous armies, and depopulated cities—epidemic dysentery. That this disease arises from an atmospheric poison has long been confidently believed; and observation shows that such poison acts directly on the mucous membrane of the large intestines, which, after death, is found covered with innumerable ulcerations. These ulcerations being situated in a portion of the bowels not so immediately connected with the functions of secretion and nutrition as the small intestines, their lesion does not probably give rise to such severe sympathetic affection of the nervous system as is found to occur frequently when the miasma attacks the latter bowels. (See Sir J. Pringle, Diseases of the Army; Sir G. Baker de Dysenteria Epidemica, 1762; Boneti Sepulchret. art. Dysenteria, Morgagni.)

"There is an old observation," says Sir John Pringle, (Dis. of Army, p. 232,) "that such seasons as produce most flies, caterpillars, and other insects (whose increase depends so much on heat, moisture, and consequently upon corruption,) have likewise been the most productive of dysenteries; and, lastly, that the infection is evidently communicated by the fæces of those who are ill, as we have already shown."

The next passage is a very strong proof of the immediate effect of the miasma on the membrane of the bowels after being absorbed by the lungs and carried into the circulation; but Sir J. Pringle was too much infected with the doctrines of the humoral pathology not to explain it according to such preconceived opinions.

"For the dysentery," he says, "may proceed from two causes, different in appearance, but in effect the same: one from acrimony generated within the body, and the other from foul steams, which, being received into the blood, *act as a ferment*, and suddenly produce the same disorder that arises slowly from an internal cause. A remarkable case once occurred to me of a person seized with true dysentery, by making experiments upon human blood, become putrid by standing some months in a close phial."

It may here be suggested that, if the poison of the atmosphere acts like known animal or vegetable poison upon living structures, it ought to affect all persons equally within its reach, and that its attack should be simultaneous, and nearly equally severe in all cases. On the other hand, that the power of absorption of the same quantities of air, loaded with vapour of different density, is equal in all individuals, must be proved; and next we must remember that there is no law of living matter more certain than the power it possesses of becoming accustomed to external and foreign impressions, and that, indeed, scarcely a better definition of life can be given than the power of the body to remain unchanged in a temperature raised greatly above, or diminished much below, its natural heat.

On this point it will be well to recal to the reader the remark of Dr. Lind. "Nevertheless," says he, "it is worth observing that, without suffering by it, we may take poison in such quantities as, were we not previously accustomed to it, would be instant death. It is precisely the same with those who constantly reside in countries replete with fenny miasmata: they thereby become so much the less obnoxious to be affected by them. Hence too it is that persons newly arrived from Europe sooner fall sick than those who had been some time in garrison at Calcutta."—(Lind. B. Remitt. Fev. p. 38.)

Again, individuals who are weakened by illness, by large evacuations, or by the constant influence of depressing passions, have been observed to take fever more readily than those who are in robust health, using full diet and constant exercise. These last promote the growth of the body. It is found by the experiments on poisons that their absorption, and in disease the introduction of remedies, is more rapid in debilitated than in robust bodies. This, then, will still further favour the analogy between the effects of known poisons and those believed to exist in the atmosphere.

Proceeding a step farther, we find that there are certain conditions of the body predisposing and even necessary to the reception of epidemic miasmata, but that still these poisons act on one definite structure.

(*To be continued.*)

From the London Medical Gazette.

PHYSIOLOGICAL MEMOIR ON THE BRAIN.*

By M. Magendie. Read before the Royal Academy of Science, June 16, 1828.

Since the blind respect which the ancients entertained for the dead has given place to an ardent desire to become acquainted with the organization of the animal frame, anatomical science has been elevated to a higher degree of perfection by the successive labours of eminent men. Anatomists now, who in their ardour still hope to find some part not observed before; some structure yet undescribed, are fain to proceed microscope in hand. This circumstance alone suffices to show the perfection at which the topography of the human body has arrived.

The investigations which I have long pursued, with regard to the nervous system, have led to my discovering a new element of our organization—not one of those which requires minute research to be detected: on the contrary, the element of which I speak is so apparent, that it has only escaped heretofore from the belief that no part of the body, however minute, could have escaped the active investigations of anatomists.

I have ascertained that there exists, in the cavity of the cranium and spine, a liquid, in the midst of which is immersed the brain, spinal marrow, and origins of all the nerves. This liquid, which belongs to the most perfect state of health, and the quantity of which extends to several ounces, is too obvious not to have been noticed and even mentioned in several works; but then its presence was attributed either to disease or to changes which had occurred after death. You may conceive my satisfaction on determining so important a fact. A host of conjectures presented themselves to my mind:—was this liquid the *animal spirits* of ancient writers—the *nervous fluid* of which certan physiologists still speak? Doubtless had the discovery been made some fifty years ago, we should have had a brilliant hypothesis founded upon it: but such is not now the progress of science—experience is preferred to the most ingenious systems; and some observations on nature, and some experiments, are all that this memoir will contain.

It was necessary to begin by naming my liquid—for a name is a great matter even in anatomy. I called it the *cephalo-spinal* or *cephalo-rachidian*, because it is found both in the head and cavity of the spine. I next had to determine the exact quantity, and I ascertained that, in an adult man of middle stature, and in the enjoyment of all his faculties, moral and physical, there were about three ounces; in women, under like circumstances, the quantity is greater. It will be seen by and by that this is no advantage. In old persons the quantity of the liquid is still more considerable, and may extend even to six or seven ounces; but then the faculties, of both body and mind, are generally much impaired.

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* Condensed from Le Journal de Physiologie.

The situation occupied by this fluid is worthy of remark: it forms round the brain and spinal marrow a layer of different thickness at different points; at the neck it is four or five lines; at the loins it is more than an inch; in the brain generally one or two lines, but in certain situations and certain cases nearly an inch. Do not these facts militate strongly against a famous system in which it is pretended to determine the most minute circumstance concerning the volume and conformation of the brain by the formation of the skull? If there exists, as cannot be doubted, a layer of fluid between the cranium and the brain, and if this layer may have several lines in thickness, how can we judge of the dimensions of the brain by those of the cranium?—and how be sure that the elevations or depressions of the surface of the head correspond to those of the brain? The study of the layer of this which covers the brain, led me to a singular and very unexpected fact with regard to the volume of this organ.

We look upon the dimensions of the brain as not subject to variation, because we think that it fills exactly the cavity of the cranium, and because we do not see the head become emaciated or plump with the other parts of the body: but nothing is less correct. I ascertained that the brain follows the other organs with regard to the change of its volume.

In all diseases of a certain duration, where the body wastes much, the brain undergoes a similar diminution; and the convalescent who can scarcely walk, and who attributes his weakness to the almost entire disappearance of the muscles of his limbs, might with as much reason attribute his moral weakness to the diminution in the size of the brain. I have ascertained, besides, that in proportion as the wasted limbs regain their former dimensions, the brain also recovers that which it had lost. Thus it appears that one of the uses of the cephalo-spinal liquid is to replace the brain as often as it diminishes in actual volume. It fulfils the same offices in the instances of partial diminution, as I was able to determine in individuals who, during many years of their life, had had the arm or leg contracted and immoveable. In this case a fifth or fourth part of one cerebral lobe had disappeared; a large depression had formed on the surface of the organ, and this was occupied by the cerebro-spinal liquid, so that the cranium was always full. After having made out the physical uses of the liquid, I wished to ascertain whether it exercised any influence on life. This could only be done by experiments on the lower animals, which have the cerebro-spinal liquid, but in much less proportion than man. My first trial was upon a fox. He was old and fierce. By means of a little puncture made in the neck he lost all his cerebro-spinal liquid in a few minutes. The effect was very striking. This animal, which had been ferocious but a moment before, became calm all at once; he no longer attempted to bite, and indeed made no movement. Seeing him in this disposition, I made him be set at liberty in the garden; but he lay down on the spot, and did not stir till next morning. He then attempted to get up, and in the course of the day made several steps with some confidence. At the end of thirty-six hours he again attempted to bite and to make his escape. I then made a fresh puncture in his neck, and I was able to satisfy myself that the cerebro-spinal liquid had been completely renewed.

These inquires led me to examine, with more attention than I had previously done, a disease of very young infants, in which a pouch, filled with water, exists at the lower part of the spine, at the place where the natural liquid is in large quantity; and I discovered that the liquid which we regard as the morbid product is nothing more than the natural liquid, which has distended its envelopes and formed a hernia externally. When this bag happens to burst, the liquid escapes, and death speedily follows; probably because the aperture remaining open the fluid cannot again collect and protect the brain and spinal marrow by its presence. Thus it appears that in man, as in the lower animals, the contact of this liquid with the surface of the brain is of great importance to the perfection of the nervous functions, and even to life.

But is it merely as a fluid that this is of so much use, or is its functions at all dependent upon its chemical constitution? To determine this question I made an experiment, in which, after having extracted the cerebro-spinal liquid of an animal, I supplied its place with an equal quantity of distilled water at the same temperature, and I found with surprise that the animal became extremely agitated· its movements were perverted—it appeared to have entirely lost its usual instincts and habits. All these phenomena ceased when I allowed the water to escape. To judge if the temperature of the liquid had an effect on the nervous functions, after having allowed the portion which I had previously extracted from the animal to become cold, I re-introduced it into the cavity which it had occupied: immediately the animal was seized with general trembling, analogous to what precedes intermittent fevers. It is, therefore, not impossible that this experiment may throw some light on the cause of the cold stage in fever.

I conclude from the facts and experiments which I have detailed, and from many others already published, that the cephalo-spinal liquid influences the functions of the nervous system, first, by its contact with the surface of the brain and spinal marrow; secondly, by its chemical nature; thirdly, by its temperature;—and thus that this liquid must be ranked along with the blood, lymph, &c. from its utility in the animal economy.

But I had a much more important object than that which we have considered: I had to study the influence of this liquid upon the intellectual faculties of man. That I may be the better understood, it is necessary to say a few words on the formation of the brain. This is divided into two portions: one large, and occupying the upper part of the cranium --viz. the *brain* proper; the other small, and placed beneath--viz. the *cerebellum*. The exterior of the brain presents a great number of rounded protuberances, varying in different individuals and separated by furrows. This disposition has led some to believe that the brain is only a large membrane folded upon itself. Numerous cavities are found in the valve of the cerebrum. It is there most probably that some of the mysteries of nervous actions and intellect are accomplished. Can it be believed that these cavities, rendered so important by the phenomena there produced, have been, and still are, denominated *ventricles* —little bellies? Is it not high time to discard this frivolous appelation from the language of anatomy? However this may be, the nomenclature of the parts contained within the cavities of the brain offer this remarkable circumstance—that many of them have names indicative of hydraulic uses: thus we have the terms *aqueduct*, *funnel*, *valve*, and even *bridge*.

Most of these names have descended to us from distant periods, and we are accustomed to look upon them as the remains of some ancient system, which has crumbled beneath the accumulation of time and science. The old physicians believed that the ventricles of the brain were filled with water, which, in certain cases, escaped by the nose: a belief which passed to the vulgar, among whom we still meet with it. These ideas are looked upon as erroneous by modern anatomists, according to whom the ventricles of the brain, in its healthy condition, do not contain any water, but a light and invisible vapour, which they have not hesitated to represent as the immaterial essence presiding over the acts of intelligence. Nevertheless, when we open the brain, we almost always find the ventricles filled with a limpid fluid; but the present doctrine regards this as the product of the disease producing death.

Having acquired the data which I have already mentioned, with regard to the liquid which surrounds the brain and spinal marrow, I have been led to think that the water which is so frequently found in the cerebral cavities might be the same which is found on the surface of the brain; from which it would follow that its presence in the ventricles was natural, according to the opinion of the ancients, and not a morbid product, as is at present supposed.

It will be perceived that, in order to confirm this idea, it was absolutely necessary that there should exist an opening by which a communication might be established between the exterior of the organ and its internal cavities; and yet no such opening was known. I did not, however, despair; and after some researches, made at the termination of certain diseases, I at last found an aperture two or three lines in diameter, completely hidden by a lobe of the cerebellum, and forming a true *entrance to the cavities of the brain*. I represented this opening in a fine wax cast which I gave to the academy, and which is now exhibited.

This fact once established, it became mechanically necessary that the cerebro-spinal liquid should enter into the cavities of the brain and fill them, for they communicate with each other. I had no difficulty in verifying this inference in the bodies of persons destroyed by accidents, and which, in fact, showed me the liquid filling the cerebral cavities, &c.

This discovery gave me the key to the hydraulic nomenclature of which I have spoken. I perceived that these pretended ruins of ancient doctrines were simply the figurative but just designation of an assemblage of organs in full activity, and fulfilling their singular functions in the brain of those very persons who denied their existence. In fact, the valvula Vieusseni of the cerebellum fulfils, to a certain extent, the office of a valve. The *aqueduct* has really the functions which this name implies, as it transports the liquid from the fourth to the third ventricle; the infundibulum, or *funnel*, carries it to the pituitary gland; and lastly, the pons, or *bridge*, is really an arcade, placed transversely in the direction which the fluid observes; it is situated, not over, but beneath the current, which it traverses, and, to give an idea of it, I cannot do better than call to mind the gigantic enterprise which is now in progress under the Thames.

This, then, is a complete restoration of the hydraulic apparatus presented by the brain. Without being an exclusive admirer of ancient times, I must remark that, in this instance at least, our predecessors had observed more accurately than we had done. Modern anatomists, however, have this merit—that they respected the names, although they regarded them as false and illegitimate; and in this they were wise, as people sometimes are, without suspecting it.

The liquid which fills this cavity is not in repose; on the contrary, it undergoes constant agitation, by the effect of a kind of flux and reflux resulting from respiration. Thus, at the moment we inhale, the liquid flows out in part from the cerebral cavities and passes into the spinal canal; while, on the other hand, at the moment of expiration the liquid re-enters these cavities, and passes by the conduits above mentioned, particularly the *aqueduct*, which gives passage to the fluid now in one direction, and now in the opposite.

The mechanical cause of this flux and reflux is very simple—it depends upon the alternating turgescence of the nerves of the spine under the influence of respiration. This movement of the liquid is arrested, or much retarded, by compressing the abdomen. We may remark that this is one of the effects of girdles, and serves to explain how their use becomes dangerous, or even insupportable, when the pressure is too great.

In studying the passage of the fluid by the aqueduct, I believe I have discovered the probable use of the pineal gland. I look upon it as a *plug* destined to open and shut the aqueduct, over the anterior opening of which it is situated. Two large veins are placed and fixed upon the gland; these vary in size—sometimes they swell greatly, and at others are nearly empty. It is inevitable, from the relative position of the parts, that the moment the veins swell they must press down the pineal gland; and this cannot yield nor descend without shutting the entrance of the aqueduct to a greater or less extent. Now, as one of the constant effects of crying, of exertion, anger, and all violent passions, is to swell the veins of the head, and particularly those which press upon the pineal gland, it follows that, in these different conditions, the entrance of the fluid into the ventricles is intercepted, or at all events impeded. The use, then, or, more correctly, one of the uses of the pineal gland, would appear to be that of regulating mechanically the flow of the cerebro-spinal liquid through the aqueduct.

Such an investigation was extremely difficult, and if there were some hopes of ascertaining some truths of great interest, the chances of errors were much more numerous. In order to avoid wandering as much as possible, I took two extreme points, reserving the intermediate gradations for future opportunities. I first ascertained the quantity of the cerebro-spinal fluid in persons endowed with reason; secondly, in idiots; and thirdly, in the insane.

In idiots (I speak of those who had accidentally become such, not of idiots from their birth, in whom there exists some vice in the organization of the nervous system) there is a considerable quantity of this fluid: it occupies the surface of the brain, and there forms a thick layer; it distends the cerebral cavities, and displaces all the parts which are to be found there, particularly the pineal gland, which no longer has its natural situation, and thus no longer fulfils the office I attribute to it. The aqueduct, in consequence, presents a considerable enlargement. It is in such cases that we find from six to seven ounces of cerebro-spinal liquid, and the same occurs in the imbecility of old persons.

The insane also have a large quantity of liquid, but it does not accumulate at the surface of the brain. Whatever be the nature of the enlargement, monomania, hallucination, melancholy, &c., the ventricles are always very much distended and enlarged by the fluid, of which three ounces are sometimes found in these cavities alone.

Persons who retain their reason to the time of their death generally have less than an ounce of serosity in the ventricles. Thus it is easy to distinguish the brain of a madman, or an idiot, from one which is sound.

I had once to examine the brain of a man of genius who died at an advanced age, but still retaining his faculties entire: the entire quantity of cephalo-spinal liquid did not amount to two ounces, and the cavities of the brain scarcely contained a drachm.

It appears, then, to be established by these general results, that the development of the faculties of the mind is in the inverse ratio of the quantity of cephalo-spinal liquid; and this is, to a certain extent, easily understood, since the volume of the fluid cannot increase but at the expense of the cerebral mass, and, in general, superior intellects are found connected with voluminous and well-developed brains. But those who have a large head and high forehead, and who are disposed to be somewhat vain upon the subject, ought to feel some anxiety about the relative proportion of their cerebro-spinal fluid. I may add, that not only ought this liquid not to be too abundant, but that its movements ought to be free in its channels. I lately found in the brain of an old female singer, who, after a brilliant career on the stage, died idiotic at the Salpetriere, an obliteration of the opening by which the liquid enters the ventricles; and as the brain of this woman presented no other appearance which could explain her mental disease, I am led to regard the above as the cause of her idiotism.

Such are the results of my inquiries, but much is still wanting to complete the history of the cerebro-spinal liquid. I have collected many facts, and believe that I have arrived at many interesting conclusions, but they require to be matured.

From the Philosophical Magazine and Annals of Philosophy.

ON THE INFLUENCE OF THE AIR IN DETERMINING THE CRYSTALLIZATION OF SALINE SOLUTIONS. By THOMAS GRAHAM, Esq., A.M. F.R.S.E.

The phenomenon referred to has long been known, and popularly exhibited in the case of Glauber's salts, without any adequate explanation. A phial or flask is filled with a boiling saturated solution of sulphate of soda or Glauber's salt, and its mouth immediately stopped by a cork, or a piece of a bladder is tied tightly over it, while still hot. The solution, thus protected from the atmosphere, generally cools without crystallizing, although it contains a great excess of salt, and continues entirely liquid for hours and even days. But upon withdrawing the stopper, or puncturing the bladder, and admitting air to the solution, it is immediately resolved into a spongy crystalline mass, with the evolution of much heat. The crystallization was attributed to the pressure of the atmosphere suddenly admitted, till it was shown that the same phenomenon occurred, when air was admitted to a solution already subject to the atmospheric pressure. Recourse was likewise had to the supposed agency of solid particles floating in the air, and brought by means of it into contact with the solution; or it was supposed that the contact of gaseous molecules themselves might determine crystallization, as well as solid particles. But although the phenomenon has been the subject of much speculation among chemists, it is generally allowed that no satisfactory explanation of it has yet been proposed.

In experimenting upon this subject, it was found that hot concentrated solutions, in phials or other receivers, might be inverted over mercury in the pneumatic trough, and still remain liquid on cooling; and thus the causes which determine crystallization were more readily examined. For this purpose, it was absolutely necessary that the mercury in the trough should be previously heated to 110° or 120°; for otherwise that part of the solution in contact with the mercury cooled so rapidly, as to determine crystallization in the lower part of the receiver long before the upper part had fallen to the temperature of the atmosphere. In such cases, crystallization beginning on the surface of the mercury, advanced slowly and regularly through the solution. Above, there always remained a portion of the solution too weak to crystallize, being impoverished by the dense formation of crystals below. It was also necessary to clean the lower and external part of the receivers, when placed in the trough, from any adhering solution, as a communication of saline matter was sometimes formed between the solution in the receiver and the atmosphere without. When these precautions were attended to, saline solutions over mercury remained as long without crystallizing as when separated from the atmosphere in the usual mode.

Solutions which completely filled the receivers when placed in the trough, allowed a portion of mercury to enter, by contracting materially as they cooled. A bubble of air could thus be thrown up, without expelling any of the solution from the receiver, and the crystallization determined, without exposing the solution directly to the atmosphere.

The first observation made was, that solutions of sulphate of soda sometimes did not crystallize at all upon the introduction of a bubble of air, or at least for a considerable time. This irregularity was chiefly observed in solutions formed at temperatures not exceeding 150° or 170°, although water dissolves more of the sulphate of soda at these inferior temperatures than at boiling heat. Brisk ebullition for a few seconds, however, rendered the solution upon cooling amenable to the usual influence of the air. In all successful cases, crystallization commenced in the upper part of the receiver around the bubble of air, but pervaded the whole solution in a very few seconds. A light glass bead was thrown up into a solution without disturbing it.

It occurred to me, that, since the effect of air could not be accounted for on mechanical principles, it might arise from a certain *chemical* action upon the solution. Water always holds in solution a certain portion of air at the temperature of the atmosphere, which it parts with upon boiling. Cooled in a close vessel after boiling, and then exposed to the atmosphere, it reabsorbs its usual proportion of air with great avidity. Now this absorbed air appears to affect in a minute degree the power of water to dissolve other bodies; at least a considerable part of it is extricated upon the solution of salts. When a bubble of air is thrown up into a solution of sulphate of soda, which has previously been boiled and deprived of all its air, a small quantity of air will certainly be absorbed by the solution around the bubble. A slight reduction in the solvent power of the menstruum will ensue at the spot where the air is dissolved. But the menstruum is greatly overloaded with saline matter, and ready to deposit; the slightest diminution of its solvent power may therefore decide the precipitation or crystallization of the unnatural excess of saline matter. The absorption of air may in this way commence and determine the precipitation of the excess of sulphate of soda in solution.

Here, too, we have an explanation of the fact just mentioned, that solutions of sulphate of soda which have *not* been boiled, are less affected by exposure to the air than well-boiled solutions; for the former still retain the most of their air, and do not absorb air so eagerly on exposure as solutions which have been boiled.

But the theory was most powerfully confirmed by an experimental examination of the influence of other gases, besides atmospheric air, in determining crystallization. *Their influence was found to be precisely proportionate to the degree in which they are absorbed or dissolved by water and the saline solutions.*

To a solution of sulphate of soda over mercury, which had not been affected by a bubble of atmospheric air, a bubble of carbonic acid gas was added. Crystallization was instantly determined around the bubble, and thence through the whole mass. Water is capable of dissolving its own volume of carbonic acid gas, and a solution of sulphate of soda as strong as could be employed was found by Saussure to absorb more than half its volume.

In a solution of sulphate of soda, which was rather weak, both common air and carbonic acid gas failed to destroy the equilibrium; but a small bubble of ammoniacal gas instantly determined crystallization.

When gases are employed which water dissolves abundantly, such as ammoniacal and sulphurous acid gases, the crystallization proceeds most vigorously. It is not deferred till the bubble of gas reaches the top of the receiver, as always happens with common air, and frequently with carbonic acid gas, but the track of the bubble becomes the common axis of innumerable crystalline planes, upon which it appears to be borne upwards; and sometimes before the ascent is completed, the bubble is entangled and arrested by crystalline arrangements which precede it.

The number of gases which are less soluble in water than atmospheric air is not considerable; but of these, hydrogen gas was found to be decidedly least influential in determining crystallization.

Minute quantities of foreign liquids soluble in water likewise disposed the saline solution to immediate crystallization, as might be expected, and none with greater effect than alcohol. It is known that alcohol can precipitate sulphate of soda from its aqueous solutions. The soluble gases I suppose to possess a similar property.

These facts appear to warrant the conclusion, that air determines the crystallization of supersaturated saline solutions, by dissolving in the water, and thereby giving a shock to the feeble power by which the excess of salt is held in solution.

⁂ Since the foregoing observations were printed, the author has perceived that M. Gay-Lussac, in his paper on crystallization, (*Ann. de Chim.* tom. lxxxvii.) had distinctly thrown out the same theory as a conjecture, although the circumstance is not noticed by any systematic chemical writer. But as M. Gay-Lussac brings forward no experimental illustration of the theory, and indeed adduces one experiment as unfavourable to it, the experimental confirmation of the theory is novel, and was certainly required.

From the London Medical and Physical Journal.

OBSERVATIONS ON FEVER. By W. F. Bow, M. D.

I had the honour of appearing in the numbers of your Journal for March, April, and May, as the author of some speculations on the nature of fever.* I there hazarded an opinion regarding the heat of the surface. I said that, during the first stage, the products of secretion throughout the system were imperfectly secreted, in consequence of the impairment of nervous energy; that these imperfect products at length irritated the extremities of the sentient nerves, and thus caused the reaction which introduced the second stage; that, owing to the great sensibility of the skin, reaction first manifested itself there by a sense of heat; and that the preternatural heat of fever depended on such irritation, and was not caused by increased vascular action.

My object in now addressing you is to call the attention of your numerous readers to this point: many of them may have an opportunity of watching the progress of febrile attacks in their own persons during the autumn: if so, I am confident they will find that heat of surface, more or less, invariably precedes increase either of force or frequency of pulse. I begin to suspect that the contrary opinion is the offspring of theory rather than of clinical observation, and that the general belief in this doctrine is the chief obstacle in our research into the nature of fever. As an instance how apt we are to be misled by preconceived ideas, or by the authority of great names, Dr. Currie, throughout his "Reports," never doubts but that the heat of the surface in fever is caused by increased vascular action. He believes it to accumulate first about the heart, and to extend to the surface; yet he commences his work with a case which shows evidence to the contrary. This case is the more to be depended on, as it is reported by the patient himself, Dr. Wright.

"By my attention to the sick man, I caught the contagion, and began to be indisposed on the 5th of September; and the following is a narrative of my case, extracted from notes daily marked down, &c. September 5, 6, 7.—Small rigours now and them; a *preternatural heat of the skin;* a dull pain in the forehead; the pulse *small and quick.*"

Dr. Good considers heat to be the result of increased action. "For as the former [heat] is the result of increased action, till such increased action takes place, the heat, as in the first stage of the paroxysm, may continue even below the natural standard."* Yet this diagnosis of mild remittent fever runs as follows: "The patient complains of drowsiness, and feels languid; is occasionally chilly, and afterwards flushed, but without perspiration; for the skin is *hot* and *dry*, the thirst considerable, commonly with nausea and a total loss of appetite. In the course of the day, but usually towards the evening, the *pulse quickens*, the *heat increases*, and at length terminates in sweat."

Dr. Good also illustrates the autumnal remittent with a case, in which I suspect heat of skin existed, with a *feeble* pulse.

"In the case of a young lady, in her seventeenth year, whom I lately attended, the attack was slight, and no serious evil was at first apprehended. The pulse was about ninety in a minute, and rather *small;* the bowels were relaxed, the motions bilious, and the stomach suffered from nausea. A gentle emetic seemed to afford some relief to the stomach, and a dose of rhubarb and calomel to the bowels; but the *fever* continued with a daily and increasing exacerbation, for the most part at mid-day, or soon after.. The stomach again became irritable and sick, and the sickness was again connected with diarrhœa; but the stools were colourless and watery, and nothing was rejected from the stomach but the diluent food that was swallowed. The skin was now *very* hot and dry; the pulse from a hundred to a hundred and twenty strokes in a minute."

Now, in the first part of this case, although the heat of the skin is not mentioned, there must have been considerable heat, because Dr. Good says "the fever continued." Without heat greater than natural, the disease could not have been recognised as fever; and a pulse ninety, and smaller than natural, certainly cannot indicate increased action of the sanguiferous system.

From the Edinburgh Medical and Surgical Journal.

OBSERVATIONS ON FISTULA LACHRYMALIS, *and the recommendation of a more simple plan of Operating.* By Edward Thompson, Member of the Royal College of Surgeons, London.

Before the plan recommended by Mr. Ware for the cure of *fistula lachrymalis* was practised, the operation might be looked upon as a rude one. The method pursued by Pott was any thing but a surgical proceeding; and although the gut was gradually introduced through the natural canal, it possessed little to recommend it over the methods employed before his time. The simple operation of Anel,—that of passing a probe through the upper puncture, and overcoming the contraction by carrying it along the natural passage into the nose, which some have incorrectly called Mr. Travers's method,—was either not known or else forgotten. This method, although superior to any of the operations then in use, soon ceased to be employed even in the country in which it was proposed, probably from the difficulty of performing it, or from a wish to resort to more severe means, which in the infancy of surgery were always preferred.

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* Vide Journal of Foreign Medicine, Vol. I. page 502, and Vol. II. page 16 and 102.

* Study of Medicine, vol. ii. p. 40.

Of the operation by Mr. Wathen, which only differed from the old manner in the tube being inserted through the natural canal, instead of the bone, Mr. Ware has left us no very favourable character. The trouble experienced in abstracting these tubes, as after a longer or shorter period they either became filled with hardened mucus, or suffered displacement, appears to have caused more annoyance than any of his operations. That a method which so often failed in effecting a permanent cure, and was so difficult to remedy after it had failed, should have been immediately deserted after the plan by Ware became known, is not surprising. A dead substance can never be accommodated to a living one for any length of time, without undergoing some change either in situation or otherwise, which requires its being reapplied or adjusted. This mode, with slight modification, has been revived by Dupuytren, and has found an advocate in Mr. Teale. The cases are interesting; but it remains to be proved how far they will be eventually successful. Mr. Ware had to remove several of Wathen's tubes a length of time after their introduction, in consequence of unpleasant effects arising from their presence. I do not know that they have, as foreign bodies, ever excited irritation or nervous pain; but Le Dran states that he has known a bougie kept in the canal too long cause in certain habits distressing symptoms, which it is not improbable may occasionally occur after the introduction of permanent metallic tubes. Cases of the most violent *tic douloureux* are on record, caused by the presence of foreign substances under the integument. Although the example of Dupuytren may go far in recommendation of the measure, it probably will never become general, as the advantages are greatly overbalanced by defects. The practice pursued by Baron Larrey,—the use of cat-gut,—had been fully tried before his time and appreciated. It is now nearly laid aside.

The mode lately proposed of puncturing the sac alone, and forming a small fistulous opening externally, without interfering with the duct, may succeed in some cases, but with others it will not. Mere inflammation of the sac and duct does not constitute true fistula. Matter may form as a consequence of inflammation, and it may be necessary to evacuate it, or it may burst forth; but the thickening of the membrane will often subside after such evacuation, and the canal become pervious, if the external opening be not suddenly healed. I have seen this take place in one or two instances, and probably the cases related have been of the like kind. It is difficult to suppose, in the cases alluded to, a total obstruction of the canal to have permanently existed, as the tears in that case would still run over the cheek. It is, however, a method that may occasionally prevent the necessity of opening the canal, which, by waiting a time, would of itself become pervious, the inflammation and thickening gradually subsiding.

The operations, therefore,—for it is unnecessary to allude to those of Garengeot, Schobinger, and others,—that deserve the greatest attention, are those of Anel, Heister, and Ware. Anel's operation is that followed by Mr. Travers, and consists in not opening the canal to its full size, but merely introducing a small probe through the superior puncture. This operation is defective, because, as the opening is very small, a slight inflammation, excited by whatever means, will suffice to close it up again, and therefore a recurrence to the operation will frequently be necessary. This is not mere supposition; it is grounded in fact. It is also more difficult to perform that of Mr. Ware, which stands in the way of its universal adoption, although by a little attention the difficulty is surmounted. Heister preferred this method with certain modifications, and thought it applicable to nearly every case; but it is not easy to set aside the stigma that has been attached to it, that of its being little better than a palliative measure. The operation, then, that appears the freest from objection is the one proposed by Mr. Ware. Any one who will take the trouble to look into the history of this disease will see, that the mere opening of the natural canal, and the introduction of substances to prevent its closure, did not emanate from either Pott, Wathen, or Ware. On the Continent it had been practised many years before Pott published his observation. Petit used to pass a bougie through the canal, and others after his time did the same. But bougies or probes were introduced generally after an external opening had been formed by ulceration, and therefore differed from the methods pursued by the authors above named, and particularly Mr. Ware's. The passing of a probe through the duct, and the subsequent introduction of a style, were peculiarly his own, and was certainly an improvement in the treatment which has not been bettered.

It may be interesting to inquire,—if it be allowed that the treatment is one which may be depended upon,—whether Mr. Ware's mode may not be improved by the steps of the operation being shortened and more simplified. In the usual way of operating the sac is first opened by a knife, the probe and style following each other in succession. The necessity of making a triple operation is not very evident. All that is required is the introduction of a body to prevent the agglutination of the passage, which body might be carried down at once with the probe employed to clear the obstruction. The opening through the skin need not be larger than the style; indeed it is an advantage to have it not so. An unseemly scar is what all wish to avoid; and it was one recommendation of Mr. Ware's method, that, in this respect, it surpassed all prior operations in which an opening was made. The moderns pay less attention to this particular than Mr. Ware did. Dupuytren plunges a knife, such as is delineated in Averill's work, fully into the canal, making an opening much larger than there is occasion for; and except it be, as of old, to get a peep into the sac, which Le Dran thought of the greatest consequence, or to evacuate the contents, which would find their way without such precaution, the necessity for it is not apparent. To insert a tube into the channel is bad surgery, as experience has proved; and, therefore, the opening is larger than is required for a style, which M. Dupuytren's method will at last come to. One object in performing *fistula lachrymalis*, well known to those conversant in the operation, is to have the incision in a direct line with the longitudinal direction of the duct. In the usual way of proceeding this is sometimes omitted, and the steps of the operation impeded by it, and the patient put to additional pain. This admits of ready remedy by instituting a mean by which the apertures in the skin, sac, and canal may be made simultaneously. Heister informs us that a surgeon of Hamburgh was in the habit of plunging an instrument at once through the skin, sac, and *os unguis*, into the nose, to lessen the pain and hasten the operation. He gives a view of the instrument, which appears better fitted to knock a man down than to complete a delicate operation; yet, nevertheless, the principle deserves attention.

Without being aware of this operation, I was struck, after opening a fistula a short time since in the common way, with the idea of the practicability of such a measure, and its advantages over the common methods. The instrument which I propose for effecting the end consists merely of a steel probe, five inches long, with a trocar point, which probe is admitted into a silver cannula, of the size of a common style, and shaped like it, with a diagonal head. This cannula is prevented falling off, when the instrument is held perpendicularly, by the usual spring, and a slight enlargement of the head of the probe, or cutting part of it. There is a projection to keep the cannula in its place, so that it may not run up the probe on being introduced. The slightest force is sufficient to disengage the probe after the tube has been introduced fully into the lachrymal canal, in which it is intended to remain instead of a style. The manner of its introduction is simple. Holding the cutting probe, armed with the cannula, in the right hand, the situation for penetrating the lachrymal sac being ascertained, the skin is stretched by a finger of the left, and the instrument is at once to be plunged down through the duct into the nose up to the head of the cannula, which is to be immediately disengaged from the probe and left there. By this method of operating much time is gained, and less pain inflicted, two requisites which, in every department of surgery, and in all operations, are very desirable.

The cannula ought to be exactly an inch and three-eighths in length. The cutting or trocar point of the probe must be of necessity short, just sufficient to clear the end of the cannula and effect the requisite opening in the integument, to allow of the free introduction of the instrument into the nasal canal. If the point of the probe were to advance far from the cannula, the floor of the nostril would be wounded before the head of the style had arrived at its situation in the angle of the eye. I need not add that the instrument must be made of fine materials, and accurately fitted. Much strength is not required, nor would the limit of the instrument admit of it.

It may be stated in objection, that to plunge down at once from the angle of the eye to the extremity of the nasal channel requires a knowledge of the direction of the canal more accurate than is required by the other operation; perhaps it may; but this is not ground sufficient for its exclusion. Both operations will be better performed by a good knowledge of the relative situation of the parts; but less pain will be inflicted by a slight variation from the right direction in the one now recommended than in the old operation. It is, however, with this exception, free from several of the faults of the other mode, in relation to which it must be looked upon as only a more simple means of effecting the same end.

From the Transactions of the Medical and Chirurgical Society of London.

AN ESSAY ON A PECULIAR INFLAMMATORY DISEASE OF THE EYE, *and on its Mode of Treatment*. By WILLIAM WALLACE, M. R. I. A., &c. Read 11th December, 1827.

There are few subjects in pathology which have obtained more attention than inflammation; and yet, perhaps, there are not any in greater need of further investigation. This is owing to the number and variety of the diseases which are classed under this head. It may indeed be said that every morbid affection, which has produced, or which has an immediate tendency to produce alteration of structure, and which is accompanied by an increased accumulation of the circulating fluids in the affected parts, is denominated inflammation. Various attempts have been made at a scientific classification of inflammatory diseases, but it will be admitted by those whose field for observation has been the most extensive, that the number of facts as yet accumulated are insufficient for this purpose; and, in our present state of knowledge, he will contribute more to the advancement of the pathology of inflammation who will labour to describe with accuracy the individual forms of inflammatory diseases, and their proper mode of cure, than he who will engage in attempts at their generalization.

As inflammatory diseases are so numerous and so varied, it follows that they must require great diversity in their treatment. Yet there are certain general principles of management which are applicable to them all, and it is only in the details, or in the application of these general principles to particular cases, that there exists much variety. It appears to be admitted that the capillary vessels hold an important rank in this class of diseases. That these vessels are, on many occasions in such diseases, in a morbidly distended state, there can be no doubt. There is also as little doubt but that the removal of this state of distention is one most important object in the treatment of inflammations. This is, in fact, so obviously true, that many practitioners appear to have no other aim in their treatment; and when such practitioners have exhausted those measures which are calculated to produce these effects, they have exhausted all their resources. Thus we observe many, who scarcely extend their therapeutics beyond the lancet, the leech, and the purge; and when these have been employed in vain, the case is treated empirically, or is set down as hopeless; or it is left to the resources of nature, who often, on such occasions, performs the office of a skilful physician, and, when allowed to proceed without interruption, sets up processes of restoration which are quickly followed by recovery.

It is true, evacuants will be frequently sufficient for the cure of inflammatory diseases, and they are on many occasions the only remedies required. This is the case in those inflammatory diseases which occur in healthy constitutions in consequence of injury. On other occasions they will be sufficient, because the necessary actions of restoration can be accomplished by the natural resources of the part, after the vessels have been relieved from their preternatural load of fluids. The removal of the state of distention of the capillaries is, however, only one element in the treatment of inflammatory diseases, and often a very secondary element. For it is clear that there can be no accumulation of fluids in a part, unless those properties, or that state of the part, which regulated the admission of fluids into it, shall have been previously altered. This alteration in the properties of the part often constitutes the most important change which has taken place, and consequently demands our particular attention. Therefore, to modify or alter the vital properties of the capillary vessels will be found to be the great object which we are to hold in view, in the treatment of many inflammations.

It must be admitted that, in our present state of knowledge, we are unable to trace any connexion between the known qualities of our remedies, and the powers which they have of controlling diseased actions of parts, or of the general system. Thus, who can point out the manner in which mercury cures syphilis, or sulphur scabies, or bark ague? Yet, that there exists a certain connexion between the mode of action of the remedy and the altered properties of the diseased parts, there can be no doubt; but our information on this subject must entirely result from experience. Those remedies that possess an action or influence, upon which we can calculate in the treatment of particular diseases, are called specifics, and are, it is to be regretted, very few in number. It is evident, that one great object of those who endeavour to extend the resources of medicine must be to increase our knowledge of such agents as exercise a specific influence over particular diseases; and we may hope that, as our knowledge advances, we shall be able to reduce to some general law of the economy all the insulated facts respecting the specific action of remedies. Such were the views which I entertained on the subject of inflammatory diseases, when the following case occurred to my observation.

Charitable Infirmary, Jervis Street, Oct. 1827.

John Butterly, aged 36 years, a labourer, residing at No. 6, Dorset Street. He had been the subject of fever about eleven weeks ago. The attack lasted fourteen days, and was followed by a relapse, which confined him to his bed for a fortnight. Since then he remained well, until about a month ago, when he was seized by a violent rigour, followed by a hot and sweating stage. A similar paroxysm has returned with regularity, every second day since. His countenance is very pallid, and he is much disposed to profuse perspirations on the slightest exertion. The vision of his right eye is so very imperfect, that he can only distinguish light from darkness by it. The pupil is irregular and contracted. The iris greenish. There is considerable redness of the organ, particularly round the cornea, and on the inner side of the lids. The slightest exertion of the eye greatly increases the redness. He is troubled by frequent flashes of light, which dart across the sight; and often when in the dark, he conceives that he observes a lighted candle. There is not much pain of the eye, or of the parts about it.

This patient was subjected to the influence of bark, for the cure of the intermittent, under which he laboured. As the eye did not appear to attract much attention from him, no remedies were directed particularly for it. It was, therefore, with surprise that I found an improvement in the state of this organ a few days after he had commenced the bark; and before this remedy was discontinued, the eye had regained its natural appearance, and the vision was greatly improved.

Upon considering this case, the resemblance of the ophthalmic disease, to a most obstinate and dangerous form of inflammation of the eye, which I had frequently observed among those who had laboured under fever, struck me with great force, and induced me to consider whether I might not find in cinchona a remedy for that disease of the eye. I therefore determined on employing it the first opportunity, and I was thus led to ascertain the specific powers of bark over this disease.

I shall now proceed to a description of the disease, and I shall follow this description by a concise recital of those cases, from which I have drawn up the history. When a patient presents himself, labouring under the disease, his aspect is peculiar, and when once seen, is afterwards easily recognised. To those who have witnessed the venereal iritis, it may be observed, that there are many points of resemblance, as well in the style of the countenance, as in the appearance of the diseased organ. There is often that haggard and worn aspect, that sickly, mottled, pallid hue of skin, that sleepy, exhausted, and oppressed appearance of the eye, which is much more easily observed than described. The patient only half opens the lids of the affected organ. They are of a purplish red colour, and tumid. Their subcutaneous vessels are preternaturally enlarged. The vascularity of the sclerotic and conjunctiva is greatly increased. The vessels of the former describe a reticulated zone round the cornea, and those of the latter run in a direction more or less straight to the edge of this membrane, and sometimes appear to pass on the edge. The hue of the redness is peculiar, it is a dark brick-red. The pupil is generally much contracted, and its edge thickened and irregular. The iris is altered in colour, generally greenish, and incapable of motion. There exists a suffused dimness of the cornea, which may be compared to the appearance glass assumes when it has been breathed upon. There is often a turbidness of the aqueous humour, and a pearly appearance of the parts behind the iris may be observed by looking through the pupil. There is great intolerance of light, and a copious, hot, lachrymal discharge. The vision will be found, for the most part, so extremely imperfect that the patient can merely distinguish light from darkness, and he is often tormented by flashes of light, which shoot across his eye, and these occur more particularly in dark places; or he is troubled by brilliant spectres, or by the constant presence of muscæ volitantes. There is very considerable pain, which returns in paroxysms, and these are almost always more severe at night. The pain is sometimes referred to the ball of the eye, sometimes to one of the lids, sometimes to the temple or to the circumference of the orbit. It is, one while, compared to the action of a saw on the bones, and on other occasions, to the darting of a sword through the eyeball.

This disease occurs as frequently in the male as in the female. The youngest patient, of whose case I have a note, was 10 years of age, and the oldest 36 years. It seldom attacks both eyes, and the right eye suffers more frequently than the left. Of forty cases, which I have noted, there were only four who had the disease in the left eye, and only two who had it in both. The general health seldom appears to be much deranged. The tongue is for the most part slightly white. There is often considerable thirst, and the pulse is somewhat accelerated. The bowels are frequently confined, and there is occasionally a disposition to nausea. The disease has occurred more generally in those who have been the subjects of relapse, but the period at which it takes place after the first attack of fever is extremely uncertain. In some it has appeared immediately, and in others not for months. Sometimes a state of apparently full health has intervened between the attack of fever and the commencement of the inflammatory disease of the eye. On other occasions, the general health has seemed imperfect from the time of the fever, until the occurrence of the ophthalmic affection.

This disease presents two very distinct stages. During the first stage there exist amaurotic symptoms alone; and in the second stage, to the amaurotic symptoms are superadded the symptoms of inflammation. The length of time that the amaurotic symptoms exist before the occurrence of external redness, or of the visible symptoms of inflammation, is extremely uncertain, as also the period after fever at which the amaurotic symptoms commence. On many occasions, the amaurotic symptoms, particularly a slight dimness of vision, with muscæ volitantes, have commenced at or even before the time of convalescence from fever, and yet the inflammatory stage has not supervened for weeks or even months; while on other occasions the dimness of vision has not commenced for several days, weeks, or even months after the febrile attack, and has then been immediately followed by the symptoms of inflammation. It is to be particularly observed that I have never seen a case in which, upon strict inquiry, amaurotic symptoms more or less strongly marked have not preceded the inflammatory symptoms. This is, in fact, one of the most remarkable characters of the disease. It is also to be noticed that a similar distinction of symptoms is observable during amendment, for it uniformly happens that the inflammatory symptoms subside a longer or shorter time before amaurotic symptoms disappear, and often before they are diminished in severity.

It may be asked, what is the nature of this disease; and what is the texture of the eye primarily affected? That it must be considered an inflammation, according to the common view of this morbid state, there can be no doubt. There is violent pain, there is preternatural redness, there is increased heat, and we may add increase of size. Nor does the morbid action stop at these primary symptoms. The structure of the organ becomes altered. The aqueous humour loses its transparency, interstitial depositions take place into the substance of the cornea. The colour of the iris is changed, the pupil is rendered small and irregular, depositions of lymph occasionally take place on the surface of the iris and at the edge of the pupil. In short, in progress of time, as will appear from the perusal of the cases, there is not a texture of the eye, the structure of which does not suffer materially. But, while the inflammatory nature of the disease cannot but be admitted, it is not so easy to determine what the texture is, which has been primarily affected. Judging from the course of the symptoms, it is the retina which first suffers; but judging from the disease when advanced, it should be called iritis. Does the disease commence in the choroid membrane, and from this extend to both retina and iris, producing in the latter the symptoms already described, and a paralysis of the former? This is, perhaps, the more correct view of the subject, and best suited to an explanation of all the phenomena. If this be the case, the disease may be denominated choroiditis.

This disease bears no resemblance to that affection of the eye which has been described by Mr. Wardrop by the name of rheumatic ophthalmia.* Indeed there is no disease with which it is at all likely to be confounded except the venereal iritis, and the resemblance to it is often so very striking that the one cannot be distinguished from the other, without particular attention to the history of the case and to the concomitant symptoms. So long as the disease is in its primary stage, or in the simple amaurotic state, without any visible symptoms of inflammation, it may be confounded, if attention be not paid to the history, with incipient amaurosis proceeding from other causes.

Although the influence of bark over some rheumatic diseases, which are certainly more or less inflammatory in their nature, is already known, I am sure its utility in the affection under consideration will appear most remarkable, and much at variance with the routine practice of the present day. Indeed had not a fortunate contingency enabled me to make that observation, which led to the discovery of its influence, it is not very likely that any reasoning on the subject would have induced me to employ in a disease so decidedly inflammatory, a remedy so decidedly tonic. Yet now that the observation has been made, the practice does not appear to be irreconcileable to the most enlightened views we possess of the state of the capillary vessels in inflammation. I mean those views which consider that these vessels are in a state of debility. But, if the vessels be in a state of debility in inflammations in general, why should not a remedy calculated to restore tone be generally useful in these inflammations? Can the utility of bark on some occasions and not in others, when the symptoms are apparently the same in the organ affected, be accounted for by the consideration that the general system of the patient is also in a state of different tone, and consequently in need of the administration of tonic remedies. It must be admitted that this is not unlikely when we reflect on the probable state of the body after fever. Yet the disease has occurred, as may be observed from reading some of the following cases, in persons who appeared at the time to possess full health, and the bark was equally successful in these. In considering this part of the subject it should be remembered that there are several symptoms of the disease which appear to show a state of considerable debility in the vessels affected. Thus the redness of the eye is, as has been noticed, very deep in its hue. It is, as well as the pain of the organ, much increased by a depending position of the head, or by the most trifling employment of the eye, &c.

It is remarkable that the amaurotic symptoms frequently continue for a considerable period after all redness and pain have been removed by the employment of the bark. Indeed, I have seen some patients whose vision had not been perceptibly ameliorated, when the eye had, to all appearance, except the existence of a contracted pupil, recovered a healthy state. Now this is the more remarkable as it might, a priori, be expected that the bark would be suited to the removal of the amaurotic, more than to that of the inflammatory symptoms.

Before the efficacy of bark over this disease was ascertained, it had been uniformly treated, like the iritis from the venereal disease, by depletion and mercury; and with what ill consequences, on many occasions, I have had full opportunities of observing. The reader will find, among the cases, examples which will illustrate this mode of treatment as adopted by others. Those cases of this disease which are related by Mr. Hewson of this city in his treatise on the venereal ophthalmia have been all cured by mercury; but I am decidedly of opinion that there must exist some source of error in his account, for the incurability of the disease by mercury, on many occasions, has been ascertained by several as well as by myself, as also its curability by bark, when the mercurial treatment had failed.

When I commenced the use of bark in this disease, I did not venture to employ it when the inflammatory symptoms were very severe, without preceding its administration by bleeding and purging. But, latterly, whenever a case has presented itself, I have prescribed the bark alone, or simply with such medicines as were suited to the regulation of the bowels; and with the most decidedly good effects. Indeed, I have thought that the abstraction of blood has, on some occasions, considerably retarded the cure; yet cases may occur in which bleeding and purging will be necessary.

I trust the reader will be of opinion, after a perusal of the following cases, that the remedy has a specific influence over the disease. The knowledge of this important fact has been already productive of much benefit in this city, and to what extent it may influence our views of some other inflammatory diseases remains for future investigation. It is only a few years since the power of mercury over another inflammatory disease of the eye was ascertained; and the value of that discovery, not only in relation to the treatment of the peculiar affection of the eye, for which it was employed, but also in relation to many other forms of inflammatory diseases, has been since duly appreciated by the profession.*

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* See Medico-Chirurgical Transactions, Vol. X.

The cases which I shall now relate in illustration of the foregoing observations may be classed thus:—1st, Those for which mercury has been employed in vain; 2dly, Those for which this remedy had not been used. In the latter class will be included, 1st, Those cases which were not submitted to treatment until the inflammatory stage had commenced; and, 2dly, Those which were treated during their amaurotic stage.

1. *Cases in which Mercury had been employed in vain.*

Catherine Brennan, æt. 24, admitted into the Charitable Infirmary, January 10, 1827. Increased vascularity of the conjunctival and sclerotic tunics of the right eye, particularly round the cornea. The iris is of a darker colour than that of the left eye. The pupil is contracted, irregular, and motionless. The cornea is dull, and, as it were, contrated in diameter. There is a pearly appearance of the humours at the bottom of the eye. The lids are tumid and red. Their veins are large, and when she looks at any object, she does not separate them more than about two lines. There is much lachrymal discharge produced by every attempt to examine the eye or to look at any object. Pulse 100, and firm; tongue white.

She reports that her vision is very imperfect, that there is considerable pain and heat of the organ, particularly at night, that her bowels are confined, that there is much thirst, and that she has little appetite for solid food; that it is fourteen days since her eye became inflamed, and that the inflammation had been preceded for some time by imperfect vision.

She has been a patient at the Meath Street Dispensary. Bleeding, purging, blisters, and mercurials, to the extent of producing a very sore mouth, were employed without any relief. She had fever about six months ago, since which she has had two relapses, which succeeded each other very rapidly. Since the last relapse, which occurred two months ago, she has remained in a delicate state of health. (Half a drachm of bark to be taken three times a day in a cup of new milk, and a laxative pill each night.)

January 12th. She complains of sickness of stomach. The vascularity and pain of the eye are diminished. Bowels free.—℞. Sulphatis quininæ gr. xij.; aquæ fontanæ ℥iij.; acid. sulphur. dil. gtt. iv. M. cochleare magnum ter quotidie.

13th. She complains of pain and oppression in the region of the stomach. Tongue very white. Pulse 120. She reports that she had a shivering fit yesterday morning, and a copious perspiration last night. Her bowels are rather confined. Her eye is much improved. She was directed to take immediately a draught of the infusion of senna with sulphate of magnesia, and after its operation to continue the sulphate of quinine.

15th. She complains of general soreness and weariness. Tongue very white. Pulse upwards of 120. There is great thirst. The eye appears nearly well. The quinine to be omitted, and the following mixture to be employed.—℞. Aquæ ammoniæ acetatæ; aquæ fontanæ, aa ℥iij.; vini tartritis antim. ʒij.; syrupi ʒi. M. cochleare magnum 2dâ quâque horâ.

16th. Bowels confined; other symptoms as yesterday. (To have the infusion of senna with the sulphate of magnesia, and after its operation, the mixture, as directed yesterday, to be repeated.)

18th. Tongue cleaning; pulse 95. Mixture as yesterday.

21st. Tongue clean; pulse 88; vision imperfect, but the eye almost free from pain and morbid vascularity. (The quinine mixture to be repeated.)

27th. Discharged. The vision slightly impaired, but the eye to all appearance in a state of perfect health.

I had an opportunity of seeing this woman some weeks after she had been discharged from the hospital, and her vision was then perfect.

Joseph Bunn, aged 16 years, admitted an out-patient of the Charitable Infirmary, January 20, 1827. There is great increase of vascularity of the right eye, particularly round the cornea. The iris is of a greenish colour. The pupil is contracted, irregular, and motionless. There is intolerance of light, and vision is very imperfect. He reports that he had fever in August last, followed in a fortnight after by relapse. During both the primary attack and relapse he had been a patient in the Meath Hospital. About a month after his discharge from the hospital, the right eye was attacked by inflammation; but, from the period at which he was discharged from the hospital, the vision of the right eye had been imperfect. He has been bled, his mouth made sore by mercurials, and a variety of washes have been employed for the affection of the eye, but without any relief. In two days, half a drachm of bark, four times a day, produced the most decided effects. On the third day, the eye was nearly free from all pain and redness, and in a week he was in every respect well.

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* "The ascertainment and promulgation of this fact (the beneficial use of mercury in iritis) are due to the infirmary of this metropolis (London) for diseases of the eye, and in the catalogue of modern contributions to medical science, except the practice of vaccination, I know of none entitled to rank before it." See Surgical Essays, by Astley Cooper and Benjamin Travers, Part I., p. 85. London, 1818.

James Cullen, aged 17, admitted an extern patient of the Charitable Infirmary, on the 19th of March, 1827. Increased vascularity of the right eye, and particularly of the sclerotic tunic round the cornea. The iris of the inflamed eye is darker in colour than that of the sound eye. There is a pearly appearance of the humours of the right eye. His vision with the inflamed eye is very imperfect, and when he attempts to look at an object, he moves the eye as if to cause the image of the object to fall on a sensible part of the retina. He has occasional pain in the forehead, particularly at night. It is four weeks since the eye had been attacked by inflammation, which from his account had been very violent at first. The redness had been preceded some days by dimness of vision. He attributes the occurrence of the disease to his having come out of the house after dark without his hat, for, on the following morning, he observed the dimness of vision, and this was followed in a few days by redness and pain. He has been bled and blistered, and has used mercury to the extent of producing a very sore mouth, without relief. He has been a patient at Stephen's Hospital. He had fever seven months ago. The primary attack was followed by two relapses. Half a drachm of bark four times a day restored his eye to health in the course of one week.

For the following case I am indebted to Mr. M. Collis, Surgeon to the Meath Hospital, who employed the bark at my suggestion.

January 21st, 1827. Mary Davis, æt. 27, married, had fever ten weeks ago, was three weeks in bed. Her right eye became inflamed immediately afterwards. Present appearances:—conjunctiva very red; a deep-seated pain in the eye; pain over the eye-brow and in the head; vision so completely impaired that she can only distinguish day from night; pupil slightly irregular at the inner angle; colour of iris not altered; tongue white; pulse regular; appetite good. Has been using mercurials, purgatives, topical bleeding, and fomentations for the last ten days without effect. (To have a purgative bolus immediately, and after this has operated to take the following mixture:—℞. Sulphatis Quininæ ℈j.; acid. sulphur. dil. gtt. xx.; aquæ ℥viij. Sumat cochlearia ampla duo quartis horis.)

23d. Has taken the above mixture since last report. The pain and inflammation have considerably abated. The tongue is clean.

Feb 1st. Since the above date till this day she has continued the sulphate of quinine, and some purgative pills occasionally. She also used a collyrium of sulphate of copper in water. The external inflammation has entirely subsided; no pain whatever in the head or eye. She remains, however, with considerable dulness of vision, which is gradually wearing away.

The following case was sent to me, March 15th, 1827, by Mr. Ryal, who was then surgeon to the National Institution for Diseases of the Eye, and who is now chief surgeon to the naval hospital at Chatham, as an example, of iritis, for the cure of which, mercury had been employed in vain, and for an experimentum crucis respecting the influence of bark in such cases.

Thomas Farquar, aged 27, a boot-closer, residing in Charles street. The vision of the right eye is so very imperfect, that by it he can merely distinguish light from darkness. When he looks at a burning candle, it appears like a star or blazing fire. When in the dark, he is much troubled by frequent gleams of light, which dash across the diseased eye like flashes of lightning. Day-light is not so intolerable as candle-light. When he stoops his head, or attempts to work, he experiences a most severe pain in his forehead and eyebrow; a pain like a headach, but confined to one side. He has sometimes a distressing sensation, as if the vessels about the head would burst. The eyelids are tumid and livid, and their veins are large and tortuous. They adhere slightly at night. When he attempts to look at any object, he only half opens his eyes. The vascularity of the organ is greatly increased, particularly round the cornea, and the vessels appear to advance on the edge of this membrane. The iris of the sound eye is of a light blue colour, but that of the diseased eye is green. The pupil is contracted, irregular, and motionless. The humours are turbid. There is occasionally a copious and hot lachrymal discharge, which is always followed by relief. Tongue white. Pulse 80. He complains of thirst, yet says his appetite is good.

It is ten weeks since the vision of the right eye became impaired, but the organ has not been perceptibly inflamed longer than about six weeks. He had fever about five months ago; the first attack was, a few days after convalescence, followed by a relapse. Venesection, blistering, and mercury have been employed for the ophthalmia, without relief. He was under the influence of mercury for four weeks, and at the end of this period he was worse than when he began its employment. He was directed to take one tea-spoonful of bark three times a day.

March 17th. He reports that the pain is less, and that the vision is slightly impaired. The bark to be continued, and a laxative pill to be taken each night.

20th. He complains of great pain of the eye, attended by a very copious lachrymal discharge. He reports that he had been much better until yesterday, and he attributes the aggravation of the symptoms to his having taken some porter, and to exposure to cold when at chapel. The bark to be continued.

21st. Pain less, but vision not improved.

29th. In consequence of the illness and death of one of his children, he has not been able to attend to himself for some days. The pupil is more contracted than it was. The vision is completely gone. He does not observe those flashes of light which formerly troubled him, nor has he so much pain in his head. (The bark to be repeated. Belladonna applied.)

31st. The eye appears less red. The pain is less. The pupil is equally irregular and contracted as it was. He complains of a troublesome itching of the eye, and of a return of those flashes of light which formerly tormented him. Brilliant spectres also frequently appear before the eye. (The bark and belladonna to be repeated.)

April 2d. The pupil has been slightly dilated by the belladonna: it is of an oval form. The long axis of the oval is oblique from above downwards, and from without inwards. The pain and redness are greatly diminished. (The bark to be repeated.)

9th. The pain is gone, and there is scarcely any redness. There is some vision.

14th. The organ does not differ in appearance from the other eye, with this exception, that the pupil is motionless, somewhat contracted, and irregular. The vision is very much improved. (The bark to be continued for a few days.)

A few weeks ago I saw this patient. The pupil remained irregular and motionless, but the vision was scarcely less perfect than in the other eye. The organ was, however, easily fatigued.

The following case had been under the care of Mr. Rooney at the Dublin Eye Infirmary, and was sent by him to me, March 12, 1827, after mercury and depletion had been carefully employed in vain for its cure.

Ann Ward, aged 22, unmarried, residing No. 12, Coal Quay. The vision of her right eye is almost lost: by it she can merely distinguish light from darkness, or faintly observe an opaque body if interposed between her eye and the window. She complains of great pain in the eyeball and in the head over and round the orbit. The pain occurs at intervals in the course of the day, but is most severe at night. Day-light causes some uneasiness, but the light of a candle produces great distress. When she attempts to look at the light there is a great lachrymal discharge, and she only half opens the eye. The lids are tumid and livid. The anterior chamber seems shrunk or diminished in size. The cornea is dull, and at its lower border there is an appearance as if pus or lymph were deposited between its laminæ. The iris is of a deeper colour than that of the opposite eye. The pupil is greatly contracted, and motionless: its lower border, which is turned backwards, adheres by a thin layer of semi-transparent lymph to the capsule of the lens. The vascularity of the conjunctiva is much increased, and there is a zone of deep-seated vessels in the sclerotic round the cornea. Her tongue is white; pulse 100; countenance pallid; her appetite is very deficient; she rests badly at night; bowels in general confined. She had fever about eight months ago, followed soon after by a relapse. The vision of the right eye has been imperfect since the time of the fever, but the organ was not painful or red until a few weeks ago. The pain and redness occurred after exposure to cold. (A tea-spoonful of bark was directed to be taken three times a day, and a laxative pill each night.)

March 19th. The redness of the eye is almost gone, but the vision is but little improved. There is still some pain in the ball of the eye, and in the cranium over it. The tumidity of the lids are diminished, and the colour of the iris is restored. The flashes of light continue, but the intolerance of light is much diminished. The pupil remains contracted and irregular.

26th. The organ has assumed its natural appearance, with this exception, that the pupil is irregular, contracted, and scarcely moveable. Vision improved. She was directed to continue the bark for a few days longer.

I have been informed by Mr. Rooney, who has lately seen this patient, that her vision is restored, but that the pupil remains contracted and irregular. It is however but fair to state, that after the patient had ceased to use the bark, and after all perceptible inflammation had been removed, Mr. Rooney employed mercury again, to which he attributes the perfect restoration of vision. But, from my observation of many similar cases, I am authorized to conclude that this result would have occurred without the employment of mercury.

It is needless to add to the length of this paper by multiplying examples in proof of the efficacy of bark after mercury had failed, for the cure of this disease. I have notes of many more cases, but a further detail is unnecessary. In passing, it may be remarked that I have been informed by several who have used the bark at my suggestion, and among others, by Dr. Colles, one of the professors of surgery to the College of Surgeons, that its power was most decided in several cases, in which they had employed it after mercury had failed.

2. *Cases in the primary or amaurotic stage.*

Ellen Hopkins, aged 30, unmarried, applied at the Charitable Infirmary, March 12th, 1827. Complains of dimness of vision of both eyes, but particularly of the right. The pupils of both eyes are slightly irregular. There is no increased redness of the eyes, but there is some tumefaction of the lids, which adhere together at night. There is a pearly appearance of the humours behind the pupil, particularly in the right eye. There is a severe pain in the lower edge of the right orbit, as if she had received a blow on that part, and there is considerable pain of the same eye when the organ is gently pressed. The eyes are more painful in the mornings and evenings than in the middle of the day. Occasional flashes of light dart across the right eye. It is two months since the eyes have become affected. She had fever in last October: was ill for six weeks. There were six in the same house who had fever also. This woman attended the others. She has been in a delicate state of health ever since. She was directed to take one drachm of bark three times a day, and a laxative pill occasionally.

March 20th. She has continued the bark

regularly to the present date, and it may be said that the eyes are now in a perfectly healthy state. She was, however, directed to continue the bark a few days longer.

Under this head I shall content myself with the mention of two other cases, of which I have received a brief note from Dr. Reid, president of the association of the College of Physicians, and physician to the Fever Hospital, Kevin Street, to whom I had communicated the knowledge of the influence of bark over the disease.

Catharine Bungy, admitted into ward No. 11 of the Kevin Street Fever and Dysentery Hospital, on the 12th of February, 1827, affected with cerebral fever, was convalescent on the 22d. On the 26th complained of dimness of sight, pain in the orbits, pupil of the right eye irregular in shape, so as to appear oval. No external inflammation. (Ordered one drachm of bark and four grains of capsicum in three parts; one to be taken three times a day.)

March 2d. Sight restored; pupils have a natural appearance.

3d. Discharged cured.

Hugh Byrne had relapse of fever six days after convalescence, admitted into ward No. 2 on the 28th of February, and was convalescent on the 3d of March.

6th. Complains of dimness of sight, pain in the orbits, pupil of right eye irregularly contracted, no external appearance of inflammation. Ordered the bark powders.

9th. Sight nearly restored.

11th. Relapse of fever. The powders were therefore stopped, and the treatment adapted to fever employed. On the cessation of the fever, the bark was again administered, and the affection of the eye removed.

3. *Cases in the secondary or inflammatory stage.*

Matthew Casey, aged 20, applied at the Charitable Infirmary, as an extern patient, March 16th, 1827. The lids of the right eye are tumid and red. They are only about half opened when he attempts to look at any object. The vessels of the lid are dilated. The vascularity of the conjunctival and sclerotic tunics is greatly increased. The iris is green. The pupil is irregular, and its edge thickened. There is some pain in the head, and considerable pain on gently pressing the eye-ball. The vision is greatly impaired. Occasional flashes of light cross before the eye. A dimness of sight preceded the redness for two days. The eye has been inflamed three days. Had fever last December, for which he was confined in the fever hospital at the House of Industry. He has been bled and purged. (To take half a drachm of bark three times a day.)

March 22d. There is less pain, less redness, and less intolerance of light. (The bark to be continued.)

26th. There is little pain or redness. The sight is improved. The iris continues green and the pupil irregular. (The bark to be continued.)

30th. The iris has recovered its colour. The vision is much improved. There is no intolerance of light. His vision is best in the evening. Muscæ volitantes, which troubled him, have disappeared. (The bark to be repeated.)

April 6th. Eye perfectly restored.

Ellen Fowan, aged 30, applied at the Charitable Infirmary, March 29th, 1827. There is extreme intolerance of light of the left eye, particularly during the latter part of the day. She is unable to open the lids by any voluntary exertion. They are tumid and reddish, and adhere together at night. The eye is extremely red, particularly round the cornea. There is great lachrymal discharge. The iris is green, and the pupil greatly contracted. There is a stinging pain in the ball of the eye, and a violent pain in her forehead, which she compares to that which would be produced by the darting of a sword. The pain is most severe at night. The slightest pressure on the ball of the eye is painful. She complains of a sense of weakness, of thirst, and of an unpleasant taste in her mouth. Her bowels are regular. Dimness of vision, accompanied by muscæ volitantes, preceded the redness about two weeks. She had fever last December. She has been bled and purged by Mr. Ryal at the National Institution for Diseases of the Eye, but these remedies rendered her worse. (To take a teaspoonful of bark three times a-day.)

March 31st. She continues to complain much of the pain and of thirst. The eye, however, does not appear so red, and she can open it better. Her bowels are confined. A purgative draught was ordered, and directions given to go on with the bark on the following day.

April 2d. Pain not so severe. She opens the eye better. The redness is less. (To go on with the bark.)

She employed the bark regularly until the 10th, when she was discharged perfectly well.

It is altogether unnecessary to add to the number of cases; I shall therefore conclude with the following extract from a note, which I received some time ago from Dr. Lendric, physician to Mercer's Hospital. "I have treated two cases lately of ophthalmia with the usual characters of iritis consequent on fever, by means of the sulphate of quinine. I do not recollect the particulars of each case further than that the amendment was rapid, and speedily followed by recovery."

From the London Medical Gazette.

ESSAYS ON SYPHILIS. By John Bacot, lately Surgeon to the First Regiment of Guards.

[Continued from page 499.]

Having endeavoured to show that Mr. Hunter was not in reality more successful than his predecessors in forming any marked line of distinction between syphilitic and non-syphilitic diseases, I must next proceed to avow candidly that I am quite as little satisfied with what Mr. Abernethy has urged on the same topic. The same erroneous conclusions appear to me to have been derived from mistaken premises, but for which that acute writer is not to blame, because, the fact of the possibility of curing all forms of the venereal disease without mercury being unknown to him, he has built his distinctions upon a wrong foundation. That I do not assert this unadvisedly will, I think, be very readily admitted from considering the following passage of Mr. Abernethy's essay: speaking of syphilis, and pseudo-syphilis, he says, "since, then, our senses fail us in our endeavours to discriminate between these two diseases, and since the most important circumstance is to distinguish whether the disease is syphilis or not, we may inquire whether there are any circumstances in the progress of these different diseases which will serve us in distinguishing one from the other: it appears to me that there are." Now, what is this distinction? let me ask. Why, that the constitutional symptoms of syphilis are progressive, and never disappear unless medicine is employed. In another part of the same paper, also, Mr. Abernethy speaks the same language, in a still more forcible and pointed manner. "It cannot, I think, upon a due consideration, be denied (I now quote his own words) that many sores are produced on the genitals by sexual intercourse which are not the effects of the venereal poison, and that many of them infect the constitution, and produce secondary symptoms resembling those of that disorder. It may be asked, however, if these disorders be not venereal, what are they?" Now mark the distinction he draws. "I shall denominate, in these pages, the disease which broke out at the siege of Naples, and which Mr. Hunter has described as the venereal disease, by the name given it by nosological writers, that is, syphilis; and I shall call those diseases which differ from it in its progress, and *mode of becoming well*, by a name importing those circumstances, that is, pseudo-syphilis."

I have already objected to this name, and have given my reason for so doing; and I would farther beg to observe upon the paragraph above quoted, that when Mr. Abernethy says he denominates the disease which took place at the siege of Naples, syphilis, he is in fact begging the whole question, for we are quite ignorant at this distance of time whether one kind of ulcerations only was so designated, or whether it bore the precise character which Mr. Hunter applied to chancre, simply, I presume, because it was the species of sore most commonly met with in his day; we were also totally ignorant until lately of what would take place when these sores are left to themselves, and therefore the mode of their becoming well no longer affords any distinction.

Mr. Abernethy quotes Celsus, as proving the existence of no less than eight different sores on the genitals in consequence of sexual connexion, but it has been amply shown that these were not productive of constitutional affections, and therefore they can have nothing to do with the subject in question. In treating of the constitutional affections, Mr. Abernethy's reasonings are liable to the same objections, for they all turn upon the belief that mercury was absolutely requisite for the cure of the syphilitic chancre, and the relation of the very valuable cases he has recorded proves clearly to my mind that peculiarity of constitution on one side, and the excitement of new and diseased actions by the undue exhibition of mercury on the other, will solve all the difficulties and explain all the anomalies which they present; for nothing can be more true than a remark made by Mr. Rose, that these syphiloid diseases are seldom met with excepting where mercury has been too profusely or improperly administered.

Nothing then, according to my view of the subject, leading to a proof of distinct venereal disease, can be derived from the writings of Mr. Abernethy; he has indeed shown that sores on the parts of generation assume many different aspects—that they are sometimes aggravated by mercury, sometimes even permanently cured without it, at others succeeded by a train of secondary symptoms; and the result of his valuable experience is, that we must sometimes merely await, and, as it were, attend upon the progress of the sore, and in others use our mercurial medicines with great caution and moderation.

In bringing to your notice, next in order, the little work of Mr. Evans on ulcerations of the genitals, I feel no hesitation in saying that this gentleman has done more towards discriminating those sores which are the product of impure connexion from those which are not so, than any of his predecessors or successors: his remarks are distinguished for clearness, perspicuity, and candour, and they appear to me to include nearly all that has yet been done to any good purpose in this branch of inquiry. Mr. Evans is, however, an advocate for more than one kind of venereal disease, and his work is announced to contain an account of those ulcers which are not to be considered as the primary affection of syphilis: and why? "Because, (he says) besides wanting many essential diagnostic characters of that disease, as laid down by authors, they do not require mercury for their cure." Thus you will observe, that in the very outset Mr. Evans draws the same distinction as Mr. Hunter and Mr. Abernethy had previously done—a distinction which does not in reality exist. Mr. Evans divides his work into two parts, the first containing a description of those diseases which do not arise from sexual intercourse, including phlegmon, anthrax, chronic tubercles, but all and each of which in their ulcerative stages may give rise to erroneous views of their real nature: the second part includes all diseases arising from sexual intercourse, and he commences with excoriation and erysipelas: perhaps it would have been as well not to have included these in this division, because they may happen independently of actual connexion; but whilst making this remark, I cannot refrain from praising the accuracy with which these several affections are described, and the great good that must arise from an attentive study of their several varieties. Yet these are confessedly not syphilitic; they are followed by no after consequences; and here is the great distinctive mark which separates this class of diseases from syphilis. The ulcers which Mr. Evans describes as leading to secondary symptoms are the raised ulcer of the prepuce; and a second, which he considers of a spurious kind: the first he calls venerola vulgaris, the latter venerola superficialis, the third he denominates venerola indurata, from its great surrounding hardness. Now it is remarkable that though all these sores are described as if they were distinct and different in their essence, they all commence with a pustule, and, in fact, are only varieties of each other, the difference being more one of greater or less rapidity in the progress of the different stages than any thing else; they are all attended with derangement of health, highly aggravated by the incautious or free use of mercury, but without it is employed constitutional symptoms, to a certain extent, are described as being very frequent. Now when we find the author subdividing the first of these sores into four stages, that the appearance in each stage is different, that even the situation of the sore causes a change of aspect, that it is sometimes circular, at others irregular, that the colour even is not always one and the same; at the reflection of the prepuce it is often excavated, and then there is a great deal of hardness about it; whilst, again, upon the frænum it has not this cupped appearance, but on the contrary is so little concave as to leave its real nature doubtful; when, I say, these and other discrepancies are taken into the account, we find but little reason to congratulate ourselves upon possessing an accurate knowledge of this class of sores, and feel disposed to refer all these minute distinctions and varieties to the person who is the subject of it: two facts, however, respecting this, the elevated sore, are clearly made out—that it is capable of producing a similar disease by inoculation, and that ulcers, similar both in their appearance and consequences, may be produced without breach of surface from diseased secretion only; but if theoretically these distinctions and niceties of shade in the same ulceration appear to me to be delusive and inconsequent, the practical distinctions which Mr. Evans has pointed out in the different stages of ulceration, that is, the pustular, the ulcerative, the elevated or granulating, and the depressed or cicatrizing, are highly important in treating them; the notice taken, also, of general derangement of the health and constitutional disturbance, as precursory or accompanying symptoms, are also highly worthy of remark. It is by attention to these particulars, however apparently minute, that we are enabled to adapt our means of cure to particular conditions of local affection; that we now make the condition of the tongue and state of the pulse objects of inquiry; without, as was formerly too often the case, ordering mercurial frictions once or twice every day at least, whenever we met a breach of surface on any part of the male organs of generation. Mr. Evans also merits commendation on another account: there is no obscurity of language to be found in his work; he defines clearly the sense in which he applies his distinctive epithets; and if we do not always agree with him, at least that does not arise from mistaking his meaning.

From this sketch of Mr. Evans's labours, I must infer that all which he enables us to assume is, an answer to our first question—that it is possible to ascertain clearly and distinctly certain forms of ulceration which are not the produce of impure connexion, and, moreover, that his observations go far to prove that sores not being so produced are not followed by constitutional affections. But in order to solve our third query we must proceed farther in our search, and examine the work of Mr. Carmichael, who professes to have traced several distinct morbific poisons to their source, and to point out also the consecutive symptoms belonging to each. The first edition of this gentleman's work was published in 1814, and the ground he then took up was certainly much more tenable than it is at present, since he there declares his belief that the specific ulcer to which he restricted his definition of syphilis, together with its peculiar consequences, that is, a scaly or leprous eruption, with affections of the periosteum and bones, could not be cured without mercury. But I do not understand how he can maintain the same proposition in 1825, when he admits that he is now convinced that this form of disease can also be cured by the same simple means which he recommends in other forms of these complaints.

But before I begin to comment upon Mr. Carmichael's opinions, it will be necessary just to call to your recollection his arrangement of venereal diseases, which he divides into four classes—the first of these being the most prevalent of all, and distinguished by an eruption of a papular character in its secondary stage, the primary symptoms being either a simple ulcer, without induration, elevated edges, or phagedena; secondly, a patchy excoriation of the glans, or a virulent gonorrhœa.

The second he calls the pustular venereal disease, from the appearance of the eruption; the primary sore is distinguished by a reddish brown surface, which borders closely on the phagedenic character; its edges are raised and well-defined; it is not excavated, but is either upon a level with the surrounding parts or raised above them.

Thirdly, that form of eruption attended with spots having less of the pustular character than the preceding class, and frequently accompanied with tubercles, terminating in ulcers covered with thick crusts, which extend with a phagedenic margin, the primary ulcer being phagedenic.

The fourth, and last class, is the scaly venereal disease, to which alone he attaches the name of syphilis, and which he designates from the scaly eruption attending it: the primary ulcer of this class is the venereal chancre of Mr. Hunter. Bearing these distinctions in mind, I will now proceed with my remarks. It is strange that Mr. Carmichael, as well as Mr. Abernethy, should attempt to enlist Celsus on their side of the question; for, as I have more than once remarked, there is no dispute as to ulcers on the genitals, both arising from sexual connexion as well as without it, having always been known; and how, indeed, should it have been otherwise? But the disease to which I restrict the term syphilis, or venereal, if you please, is one wherein ulcerations on the parts of generation are followed by secondary symptoms; and the whole debate resolves itself so far into this—is each particular ulcer the fruit of a particular poison, or are these varieties the result of one only? There is one point in which I perfectly agree with Mr. Carmichael, I mean in condemning the terms syphiloidal, or false pox, or any other epithet by which diseases, either produced by mercury in a bad habit of body, or those in which the symptoms, either local or general, do not continue their progress according to our preconceived notions, are distinguished; but my views in so doing are different from those of Mr. Carmichael, my object being still farther to narrow the vocabulary he has employed, by acknowledging only one venereal disease; and I cannot see upon what grounds, or with what justice, he supposes that such terms are necessary to be used by those who admit of only one venereal poison; it is clear to me that such a belief is directly opposed to any such compromising epithets. Mr. Carmichael's opinions rest upon the the two-fold foundation of facts and arguments; and the first observation which I shall make refers to that defence of his doctrine which he derives from the unchanged and unchangeable properties of other eruptive diseases. These analogies I might perhaps be permitted to overlook, since it still remains to be proved that they are applicable to other forms of disease, and there is no just reason to be given why, because the small-pox and cow-pock proceed always in one course, that therefore the venereal disease must do so likewise; but I will pass by this objection, and ask if it be really true that this exact uniformity is maintained in the instances thus adduced. Now, with regard to the cow-pock, any thing but uniformity is found, or why so many contests as to what is or is not a genuine pustule? Is it not notorious that a delay of one day only, by substituting matter for lymph, will derange the whole train of phenomena, and produce a disease neither similar in appearance nor equally powerful in its effects? In small-pox is there no difference between the confluent and distinct sorts? Suppose a person to whom the disease was totally unknown were first introduced to a patient labouring under the last stage of this loathsome distemper in its confluent form; the face and body bloated, and covered with black scabs; a horrible fœtor issuing from the whole body; the eyes closed, and perhaps lost by suppuration; abscesses open in various parts; the sufferer delirious, and parched with fever in its severest form; and then let him contrast this spectacle with that of a person who has fifty or perhaps an hundred small pustules sprinkled over his body, with but trifling derangement of the general health, and no one other symptom denoting disease, and you would scarcely be able to persuade him that both these patients were labouring under one and the same disease; and yet nothing can be more true, nay, it is perfectly possible, that this very mild disease may have been directly propagated from an inoculation of the former. Now, between the papular eruption and the scaly eruption, as described by Mr. Carmichael, a greater degree of difference does not exist, for according to that gentleman's own account no small degree of attention is necessary to distinguish whether the scaly eruption has been so from the first, or whether it is only so in its last or desquamating stage; in other words, proving that it is only a distinction *quoad majus*, or *minus*. Having laid so much stress upon the invariable nature of the small-pox and cow-pock, I am sure you will be surprised at the following quotation, which, though long, is too important to omit. "All eruptions," says Mr. Carmichael, "venereal or not venereal, imperceptibly glide into those of the nearest character; and it often happens that a practitioner can only determine the nature of the eruption for which he is called upon to prescribe by an attentive consideration of its progress. Thus the chicken-pock is often found (to the great perplexity of the profession of late) to contain pustules so large, and so closely resembling those of small-pox, that it is only by attending to the progress of the eruption, and perhaps to its termination, that one can be distinguished from the other. On the contrary, small-pox often exhibits so many papulæ and vesicles, or half-formed pustules, that the character of the disease is not very often distinguished even by the most experienced practitioner until its progress determines its nature. The common itch is a disease which exhibits three orders of eruption all at one time—pustules, vesicles, and papulæ; and yet the general character of the disease is so obvious, that almost any person can, without hesitation, decide upon its nature. In the same manner, venereal eruptions are sometimes observed to glide into those of the nearest character. Thus the papular eruption may exhibit a few pustules, which, like the pustular venereal eruption, form thin crusts, instead of ending in desquamation; but still the character of the disease is so apparent that there is not by any means the same degree of ambiguity which attends the variolous and varicellous diseases; and in the same way the pustular disease may exhibit papulæ among the pustules, to which the same observations may be applied."

It is surely unnecessary for me to make any comments upon, or to point out, the errors of this passage. But let us look at other analogies: who is there who has not met with some of those melancholy cases of irritative fever, produced by the most trifling accidents, and has not witnessed the most marked and decided difference in the effects upon different individuals? for my own part, I have seen bleeding alone produce an ulcer, an attack of erysipelas, a sloughing sore, and in one instance a gangrene of the whole arm; and yet in those several instances there was no pretence for asserting a variety of poisons; there is only that vague term, a peculiarity of constitution, or condition of the system, to account for effects so apparently distinct. In mentioning a few of the varieties of ulceration on the genitals, Mr. Carmichael observes, that nothing can be more opposite from the commencement than the common chancre with its hardened base, like a piece of cartilage under the skin, and the sloughing ulcer; but in fact, we find upon examining the subsequent part of the work, that a pustule, or pimple, is the acknowledged origin of them all: and I cannot help thinking that this similarity in their commencement is not by any means a light argument in favour of my views. I would farther object to Mr. Carmichael's arrangement—that in speaking, for example, of what he calls the papular venereal disease, he ascribes it to no less than three separate forms of primary affection; first, a simple ulcer without induration, elevated edges, or phagedena, but whose characters are not very remarkable; secondly, a patchy excoriation of the glans and prepuce; and thirdly, a gonorrhœa virulenta. Thus you perceive that he admits the same train of constitutional symptoms to arise from two different ulcers and a gonorrhœa; and why he should admit so much, and carry his belief to that extent and no farther, I cannot conceive.

Again we find that, according to Mr. Evans's opinion, Mr. Carmichael has subdivided what he calls the venerola vulgaris, or raised ulcer of the prepuce, unnecessarily; and farther observes, very pertinently, that in the indurated ulcer the peculiarities arise in fact from the state of the constitution inducing the erysipelatous instead of the phlegmonous inflammation; thus affording an explanation, or perhaps we may be allowed to say a refutation, of one of the distinct families of sore to which Mr. Carmichael has attached peculiar consequences. So far I object to that gentleman's reasonings. I shall now proceed to make a few comments upon his fact; but I have previously an observation to make, in answer to an objection which he has foreseen will be raised against his classification, and which he therefore endeavours to remove. "It may be objected," he says, "to this classification, that the nature of the disease cannot be known until the eruption takes place; and on a loose computation, it may be regarded that nine cases out of ten of primary sores are not attended by constitutional symptoms; so that in a great majority of cases the disease has never arrived at the stage for which it is indebted for its name. To this objection I reply, that the primary ulcers afford a less decisive means of determining the nature of the disease than the secondary; yet from their character, when unaltered by irritation or mercury, we may discriminate their nature with sufficient certainty to decide on the precise eruption they would produce in their secondary state." Now, how would the reputation of any surgeon stand in private practice who could not decide upon the nature of the disease until secondary symptoms occurred; and how often must it happen to him to be obliged to give an opinion when both common and mercurial irritation has assailed the primary sore? and therefore, whilst I admit the force of the objections Mr. Carmichael has himself raised, I do not think that he has urged any argument to remove them.

The first remark I shall make relative to the discrepancy between Mr. Carmichael's theory and facts is, that he does not always conform to his own definitions: he gives us an example of a phagedenic sore which is followed by those appearances which should attach to the raised ulcer; he admits that the papular and pustular diseases are sometimes mixed; in some of his phagedenic cases, we find that character has been given to the ulcer by the action of mercury; in still more of them, the original character of the sore is not preserved throughout, so that the form of secondary symptoms, which *ought* to succeed according to the classification, is very difficult to divine;—in short, he frequently departs from his own arrangement. His description of a phagedenic ulcer includes, unless I am much mistaken, two very distinct kinds of sore, and, in more than one instance, a phagedenic surface and elevated edges are united in the same description of ulcer. Nay, more, he tells us that occasional difficulty may be encountered in distinguishing the phagedenic ulcer from the other primary ulcers: it, however, displays its character of phagedena so early, that he thinks it cannot often be confounded with an ulcer that becomes phagedenic from irritation; and he adds, that neglect, local irritation, and even constitutional irritability, will cause *any ulcer* to become phagedenic. What, then, should prevent me from assuming that an early irritation may produce an early change in the character of the sore?—and then what becomes of the distinctive phagedenic ulcer, and its appropriate, consecutive, constitutional symptoms? But, perhaps, the strongest objection that can be made to what this gentleman has advanced, is to be found in the evidence of contemporary authors, who, as far as I have been able to collect their opinions, have in vain endeavoured to follow the classification Mr. Carmichael has laboured to introduce with any thing like constancy and regularity. Thus Mr. Henner remarks, that in fifteen cases of eruptions succeeding to the Hunterian sore, six were tubercular, five exanthematous, two pustular, &c. In seven cases where the eruption was accompanied with sore throat, three were exanthematous, two tubercular, and one papular, scaly, and tubercular, all united; and one was both tubercular and scaly. Again, we find Mr. Rose observing, that in several of his cases of papular eruption he could not trace any decidedly uniform character in the sores; and, in one instance, he considered the ulcer as a well-marked example of true chancre;—and, finally, Mr. Guthrie believes that the sloughing ulcer is but seldom followed by secondary symptoms, unless improperly interfered with; and is also directly opposed to Mr. Carmichael respecting the uniformity of the secondary symptoms consecutive upon the phagedenic ulcer. From the united experience of these and other practitioners, as well as from my own observation, it does not appear to me to be possible, at present, to form more than one or two general conclusions, the principal of which appear to be, that the papular is by far the most common form of all the eruptions met with in syphilis; that the sloughing sore, in its most acute form especially, is often unattended by any form of secondary symptom; and that the tubercular eruptions are very often the result of the inadequate exhibition of mercury.

I shall here beg leave to recapitulate the reasons that induce me to differ entirely with the views of Mr. Carmichael, to whose practical labours, however, I attach a very great degree of merit. His discrimination of many of those cases in which mercury is injurious, his general line of practice, especially his attention to the constitutional condition of his patients, deserve great consideration; and I shall frequently have to speak of his treatise with warm approbation when detailing the treatment of particular symptoms. I recur to the grounds of my dissent. 1st. If we are to draw an inference in favour of a multiplicity of venereal poisons from the mere appearance of an ulcer, there seems to be no reason why we should not admit of twenty or thirty instead of four or five species of venereal poisons. 2dly. In the progress of an ulcer it has often been observed that, in consequence of local treatment only, its whole character has become changed, so that it shall answer the description of a totally different sore: are we to conclude, therefore, that the poison has the power of changing its character? 3dly. There is abundant proof that the same woman shall communicate an ulceration of a totally distinct character to different men: are we, then, called upon to believe that two or three different morbid poisons exist in the same person at the same time? 4thly. It has not unfrequently happened that a sore, supposed to be syphilitic, and healing under the influence of mercury, suddenly suspends the healing process, and a new action commences, giving a totally new character to the ulceration: this is evidently no effect of a particular poison, but is owing to a change in the habit of the patient. 5thly. It is often impossible to pronounce upon the specific nature of the local disease, until its character is confirmed and decided by the occurrence of its peculiar form of eruption, a circumstance alone sufficient to render this arrangement inapplicable to general purposes; and lastly, it is unphilosophical to seek for several causes to produce the same effect, when the phenomena are able to be explained in a much more simple manner.

Thus, then, I am led to conclude that in the present state of our knowledge we cannot give any satisfactory answer to my third query—that is to say, we are not able to trace, with certainty or regularity, distinct forms of constitutional affection to distinctly marked forms of primary ulceration; and this leads me to believe that there is one venereal poison only, and that the variations we observe in the symptums, both locally and generally, arise from difference of habit, difference of treatment, perhaps from different stages and conditions of the virus itself, and from many minute and undefined circumstances with which we are at present unacquainted. Moreover, it is equally clear to me, that if we are to restrict the employment of mercury to that sore in which all the characters of the Hunterian chancre are united, we should have very few opportunities of employing it at all, but should continue to be disgraced by a succession of secondary symptoms, which the more frequent and judicious employment of that medicine would most assuredly prevent.

Having thus discussed the history of syphilis, and considered the modern doctrines at some length, I shall proceed now to inquire into the nature and effects of the syphilitic virus, and endeavour to decide upon another much contested question—that of the identity of the poisons of gonorrhœa and lues.

(*To be continued.*)

From the Edinburgh Medical and Surgical Journal.

ON STRANGURY FROM CANTHARIDES, AND ITS RELIEF. By John Davy, M.D., F.R.S.

Strangury from cantharides, especially when applied to the skin for the purpose of blistering it, is of such frequent occurrence, and generally of such short duration, that it is commonly thought little of; and I hardly know which has received least attention from systematic writers,—the explanation of the affection, or its relief.

To those who are conversant in hospital practice, and who apply themselves to pathological anatomy, it must be well known that this kind of strangury is connected with phlogosis of the lining membrane of some part of the urinary passages. I have observed it most frequently in the pelvis of the kidneys, and in the bladder of urine, and occasionally in the ureters, and in the upper part of the urethra. The part affected with inflammation is swollen and dark red, from blood extravasated into the cellular structure, under the epithelium. Sometimes, when the effect is most severe, blood, it is well known, is actually effused into the passages themselves, giving rise to bloody urine. Sometimes, on the contrary, when the effect is slight, œdema, with very little redness of the mucous membrane is produced, unattended with strangury or any symptom indicating the specific action of the cantharides on the parts in question.

During the prevalence of strangury, I need not observe, the secretion of urine by the kidneys is either much diminished, or almost totally suppressed:—at the same time, from the irritation of the bladder, a constant desire urges the patient to attempt micturition.

The experienced practitioner can have little faith in the means commonly recommended for relieving this painful affection; such as the camphor mixture, *spiritis ætheris nitrici*, &c. Those who have tried these medicines most, if I may draw an inference from the result of my own observation, must place least confidence in their efficacy. The only means of relief which I have found almost constantly to succeed is the introduction of the catheter, used not with the idea of drawing off urine, but for the purpose expressly in question. It should be employed with delicacy and caution, just slipped into the neck of the bladder, and kept in only a few seconds. The process is seldom very painful, and the relief is almost immediate.

The rationale of the effect I shall not attempt to explain, as I have nothing but conjecture founded on analogy to offer on the subject.

Zante, August 24, 1824.

From the London Medical and Physical Journal.

OBSERVATIONS UPON A DISEASE OF THE STOMACH, *in which a well-defined Perforation takes place in the Tunics of that Organ, without any Softening of their Structure; illustrated by Cases.* By Dr. C. H. Ebermaier.*

Notwithstanding the attention of the profession has been directed to this subject by many able practitioners, no satisfactory information has yet been recorded which connects the appearances detected upon examination after death with the symptoms which existed during the life of the patients. The cases hitherto collected, in which these circumscribed perforations have been found, with smooth and regular edges, and without any alteration in the structure of the surrounding parts, have been generally in direct contradiction to the opinions formed from the symptoms complained of. In 1803, Gerard endeavoured to deduce some general opinions from the facts which had been stated respecting perforations of the stomach, and to explain the symptoms which took place during life. Chaussier has also described an appearance sometimes detected in the stomach, which might be referred either to the action of poison, or to some external injury, or to disease of the stomach. His work relates principally to perforations produced by softening of the stomach. Since the moderns have become more familiar with this softened state of the stomach and intestines, cases of perforation and spontaneous rupture have been frequently observed and recorded. The disease upon which these appearances depend must consequently be common. The subject of perforations in the stomach with smooth edges has, however, been much neglected.

Case I.—A woman, twenty-two years of age, of robust form, sought assistance for ophthalmia, under which she had laboured for several weeks. This affection was speedily subdued. Dr. E. was then informed that for many years the patient had suffered, almost constantly, from a train of symptoms which would hardly have been suspected from her general appearance of good health. The only mark of ill health was a slight paleness of the face. At the age of eighteen she began to menstruate, and, after having continued regular for about a year, the menses ceased, without any evident cause. For some months she continued in good health. At the end of this period, the digestive functions were much disturbed: her stomach ceased to bear her accustomed food; even the lightest aliment produced considerable pain in the stomach, acid eructations, and pains in the præcordia. These symptoms gradually increased both in duration and severity, and frequently appeared suddenly after the patient had eaten. Vomitings soon took place some hours after food had been taken; half-digested aliment, mixed with mucus, was thrown from the stomach. The symptoms were not, however, relieved by the stomach being thus freed from its contents. At length the vomiting became almost constant, even after the mildest food, but it was not so violent. The symptoms were not yet, however, so severe as to confine the patient to bed, or to prevent her from following her ordinary occupations, excepting occasionally for a few hours. The nutrition of the body did not appear to be much diminished. So far from this being the case, there were intervals of some months in which the patient enjoyed comparative ease, and during which the spasms of the stomach were so much diminished as to lead to the hope of radically curing a disease which had been considered more distressing than dangerous.

During the first two years, a great variety of means were had recourse to, without any avail. The whole tribe of antispasmodics and emenagogues were exhausted in vain. The menstrual discharge did not appear. The imperfect digestion, the vomiting, the dull pain in the region of the præcordia, and occasional attacks of fever, continued without diminution. The patient consequently lost all confidence in the power of medicine, and resolved to trust to the efforts of nature alone; which she did during one year.

It was presumed that the derangement of the stomach was produced by the total suppression of the menstrual discharge.

Having again submitted herself to the direction of her physician, she was bled in the foot; a mixture of cream of tartar, sulphur, and chamomile infusion was taken; the feet were frequently immersed in warm water; and the lower part of the abdomen was rubbed with stimulating liniments.

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* Journal Complementaire, Juillet 1828.

For several months Dr. Ebermaier entirely lost sight of her. He was informed that she was relieved for a short time by the above treatment, but that all the symptoms then returned with their original severity. She was still able to perform her domestic duties, but was incapable of working in the field, on account of the pain she experienced in bending her body. Pressure did not increase the pain she complained of in the epigastrium. She every day carried milk and vegetables the distance of a mile, without inconvenience. The menses had not appeared. Frequently and irregularly spontaneous and easy vomiting took place, two or three hours after she had taken food.

At the end of about seven weeks she died suddenly, to the astonishment of Dr. E., who had still viewed her malady with little apprehension.

Until the day of her death she continued lively in spirit, and capable of performing moderate labour. She rose early, took a little bread and coffee, and went into the garden to gather fruit, which she was to carry to market. She was in the act of stooping, when she suddenly screamed out, with great anxiety, "I am dying," and fell apparently expiring in the greatest torture. Her hands and feet became cold; she complained of excessive pain in the belly; the thirst was inextinguishable, and her general restlessness and anxiety very distressing. There was now no disposition to vomit. She died in a short time.

Upon examining the body, a considerable quantity of fluid was found in the abdomen. In the stomach was found a regularly formed hole, on the anterior part, through which the contents had of course escaped into the abdomen, together with the large quantity of water the patient had taken during the last hours of her existence. Around this aperture there was not the slightest appearance of inflammation, redness, suppuration, ulceration, or erosion; nor any organic lesion whatever. The internal margin of the orifice was perfectly smooth, and the surrounding parts as free from any morbid appearance as the external. The hole, in fact, presented the same appearance as one which would be made in a piece of leather with a punch.*

Case II.—A man, fifty years of age, of a sanguine and bilious temperament, had complained, every two or three months for the last five years, of pains in the belly. He died suddenly. On the right anterior surface of the stomach, a hole, about the size of a two-franc piece, with callous edges, was found. In the small intestines were observed several gangrenous spots. It was ascertained that, five years before the commencement of the symptoms under which he had laboured, he had received a severe blow from the pommel of a saddle on the epigastric region.

Case III.—A girl, fifteen years old, had suffered for two or three years from slight pains in the belly. As her sufferings increased, medical assistance was sought for. She was found to have all the symptoms of enteritis; the face was pale and anxious; urine small in quantity, and of a deep colour. Bowels constipated. The patient could assign no cause for the attack. Some years before she had had a similar attack, and since this time she had been occasionally subject to pains in the stomach.—Ten ounces of blood were taken. A clyster with castor-oil was administered, and emollient fomentations applied to the abdomen. She died in half an hour.

Appearances post-mortem.—The omentum adhered to the peritoneum, and at different points to the intestines. The abdomen contained a good deal of serous fluid, mixed with coagulable lymph. Throughout the small intestines there were traces of inflammation. The large intestines were also slightly inflamed in different parts, and much distended with air. The liver was smaller and paler than usual. The stomach was empty, and inflamed in different spots. Near the cardiac extremity a circular hole was found, of about nine lines in diameter: its edges were smooth and regular. At the opposite side of the stomach there was another perforation, of an oblong form, but not passing entirely through the external membrane. It appeared as if it had been once completely perforated, but that the orifice had subsequently closed.

Case IV.—A robust man was attacked with a fixed pain in the epigastrium, accompanied by so distressing a throbbing that he was twice bled. After his meals, he vomited both solid and liquid food. For a long time he confined himself to a very light diet, but without any benefit. For a considerable period he suffered from attacks of fever, the pain and vomiting still continuing. He was frequently bled. He at length threw up a considerable quantity of blood, mingled with pieces of substance, some resembling liver, and others like fragments of the villous coat of the stomach. For about three weeks he went on with occasional variations in the severity of his symptoms, when, after a very severe accession of pain and vomiting, he fell a sacrifice to the disease.

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* It is worthy of remark, that precisely the same description of a perforation found in the stomach, has been given by Mr. Griffiths, in his account of a somewhat similar case. His words are, "the perforation looked much as if it had been made with a punch." Vide London Medical and Physical Journal for April 1825, p. 289.—In the case related by Mr. Griffiths, the patient had suffered from previous illness for two months; she was attacked suddenly, after eating a hearty breakfast, with great pain in the belly, and died in a few hours.—Editors.

Upon examination, the abdominal viscera were found swimming in a mixture of oil and other liquids which the patient had taken. The stomach was free from adhesions to any of the surrounding parts, and without any traces of inflammation. On the right and anterior part of the small curvature a round hole was perceived, about six or seven lines in diameter. The interior of the stomach was perfectly free from any traces of inflammation. The internal orifice of the perforation was much larger than the external. The edges, examined with the finger, appeared hard, solid, and of a cartilaginous nature.

Case V.—A man, twenty-eight years of age, had been frequently troubled, during his youth, with affections of his stomach, which had been attributed to worms. For many years he enjoyed an apparently good state of health. Without any previous indisposition, he was attacked suddenly one evening with violent pain in the belly, which almost bent him double. He was carried home on a board, and threw up from his stomach some bread and wine which he had taken in the morning. A similar mode of treatment was adopted to that in the above cases, but without effect. He died in a few hours.

Appearances on Dissection.—The contents of the stomach had escaped into the abdomen. At the small curvature of the stomach, about an inch from the pylorus, a hole was found, about a line and a half in diameter, and rounded as if it had been made with a punch. This hole was surrounded by a red circle. The interior of the stomach, and every other organ, were perfectly healthy.

Case VI.—Desgranges attended a woman who for four years had been subject to pains in the stomach, from the severity of which she at length died. She never vomited. A similar aperture was found in the stomach to that above described. In other respects the stomach was perfectly healthy. The intestines were slightly inflamed.

Case VII.—A man had been subject for a considerable time to pains in the stomach. He had sometimes long intervals of ease. He gradually emaciated. Vomiting took place; and, after great and tedious suffering, he died. The pylorus was found in a scirrhous state. Two apertures were seen in the stomach, one an inch in diameter, the other much smaller. There was no appearance of inflammation in any part.*

For many reasons, this communication of Dr. Ebermaier's demands our strictest attention. In the first place, it is of course desirable that all similar cases should be recorded, that we may be enabled, if possible, to establish a diagnosis of so formidable a malady, the symptoms of which, in many cases, unfortunately so much resemble a violent attack of spasm, that the practitioner may easily be led to adopt a mode of treatment which cannot but be prejudicial. The sudden and violent manner, also, in which the patient is not unfrequently attacked and destroyed, may excite suspicions that some poisonous article has been administered; and the most lamentable consequences may ensue, if the medical attendant is not aware of the frequent occurrence of such cases. A case in point occurred in France in 1818. A woman was attacked with violent pains in the stomach, and general symptoms of illness, after having walked some distance on a very sultry day. She had taken no refreshment whatever until her return home, when she partook of a light meal with her husband and some friends. From the commencement of the attack, she was tormented with raging thirst; she had frequent stools, accompanied with great pain in the bowels. She did not vomit. Upon examination post mortem, the stomach was found to be in a state of inflammation, and there was every appearance of some violent caustic having been applied. In some parts the coats of the stomach were entirely destroyed. The pyloric portion was of a deep brown colour and contracted. After this examination, Dr. R. declared it to be his opinion that poison had been administered. The same opinion was also given by several physicians and surgeons, who were consulted. It was determined that the destruction of the stomach must have arisen from some caustic material, *for that no disease could destroy so large a portion of living animal substance.* Chaussier was fortunately called upon for his opinion: he very properly deprecated the rash and ignorant decision of his brethren, who had made no attempt to prove the presence of poisonous matter. He stated that the same appearances, and the same sudden accession of symptoms, frequently occurred from internal disease. The husband of the woman was consequently acquitted. There was not the slightest grounds for suspicion in this case excepting the manner in which the woman had been attacked, and the destruction of the stomach which was detected upon examination after death.

We not unfrequently find a partial, or even general, destruction of the stomach, in young children. The symptoms that exist during life in these cases sometimes clearly indicate disease of the stomach and bowels; but almost as frequently they are very obscure, and do not point out any derangement of the digestive organs. In these instances the aperture found in the stomach is very different from that described in the above paper. The edges are ragged, and the whole of the stomach is usually soft and pulpy to the feel. Various parts of the intestines also are generally found to have lost their natural firmness, and are torn if but slightly handled. A very instructive paper has been published by Dr.

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* For much additional information upon this very interesting, and as yet obscure subject, our readers may consult the Dictionnaire des Sciences Medicales, tome xlvi. p. 314, art. Perforation, illustrated by plates.

Gairdner upon this subject in the Transactions of the Medico-Chirurgical Society of Edinburgh, 1824. A paper was also published by Mr. North in our journal for December 1824, upon the same subject.

By Mr. Hunter, and many other authorities, this destruction of the stomach has been presumed to arise from the action of the gastric juice. We doubt the accuracy of this explanation. Mr. Hunter was led to adopt this opinion from finding these appearances in the stomach where the subject had died suddenly, and where he presumed the gastric juice still retained its activity, and that, consequently, the process of digestion went on after death; while the stomach, being dead, was no longer capable of resisting the powers of that menstruum which itself had effected the digestion of food. But it will be seen, by a reference to the papers we have just mentioned, that most of the children in whom this destruction of the stomach was found had long laboured under very tedious and debilitating diseases. To these cases, then, Mr. Hunter's explanation cannot apply.

Mr. Paxton observes,* "We have been in the habit of examining a great number of animals at different periods after death, and most of them carnivorous, whose gastric secretion is more active than that of the human stomach in dissolving animal matter; yet in these we never could find any erosion of the coats of the stomach, which must have been the case if it were possible for the gastric juice to have such effects. We consider the stomach, therefore, to be equally insensible to its presence in life or in death."

In a case which was published in the Medical Repository for August 1815, about half the cardiac portion of the stomach was found to be completely destroyed. The preparation was presented to Mr. Brookes. The child had long been in a very feeble state of health, and at last died in a complete state of marasmus. In such a case there could be no reason for presuming that the gastric juice possessed any unusual activity: on the contrary, its powers must have been weakened in proportion to the debility of the viscus which secreted it.—Editors.

From the Lancet.

GASTRIC AND DIAPHRAGMATIC PERFORATION AND EROSION. By Henry M'Cormac, M.D. Belfast.

To the Editor of the Lancet.

A case of very extensive perforation of all the coats of the stomach having recently come under my notice, I am desirous that the results, however trifling in importance, should not be lost. I shall relate the circumstances as they occurred, subjoining a few observations.

The patient (Smith) was brought into the Belfast Hospital early on Saturday morning, apparently labouring under the effects of compression of the brain. Some of the usual symptoms, as I learned from the attending physician, were wanting. The pulse being at first 70, and rising to 130 afterwards, neither was there any dilatation of the pupils. The patient was bled, and a portion of wine was given, but without any beneficial result. During the course of the day, he continued in a state of stupor, only interrupted by frequent attempts to vomit, and at one o'clock on the ensuing morning died.

At eleven, in pursuance of a Coroner's Inquest, examination of the body took place, in the presence of a number of medical gentlemen, when the following appearances were presented. A wound of the left temple, in the form of a right angle, about two inches in extent, said to have been occasioned by a bayonet stab, after the deceased had been knocked down in a fray with the sentinel of an adjoining barrack. A slight contusion on the same temple, supposed to have been produced by the hand-blow, which felled the deceased. The calvaria, or skull-cap, being denuded and removed, no fracture was discernible. An almost continuous coating of coagulated blood was visible on the pia mater, covering the upper surface of both hemispheres. There were about two ounces of bloody serum at the base of the brain. In the left plexus choroides were imbedded several hydatid-like vesicles, about the size of peas, and also a number of round substances, smaller than the preceding, having the white colour and consistency of brain. Of these two I may remark, that the former is very common; the latter, I never observed before.

Being desirous of ascertaining the condition of the abdominal and thoracic viscera, I detected perforations in the cardiac extremity of the stomach, to an unprecedented extent. The thorax was, however, previously opened, and about sixteen ounces of a reddish fluid were found in its right cavity. This being sponged out, I traced the mode of its introduction through a hole in the diaphragm, large enough to admit the fore-finger to pass with ease into the stomach. This hole had a black, sphacelated and ragged appearance round its margin, the muscular fibres being also separated. There was also erosion, but not perforation of another portion of the diaphragm, near the origin of the inferior muscle. This erosion was two inches in diameter, and existed on both sides, having a blackened appearance, the peritoneal and pleuritic coats being nearly obliterated; there was here also a separation of the muscular fibres. The perforations in the stomach were two principal and some smaller ones; the first were about three inches in diameter, having irregular indented edges, together with filmy prolongations of the peritoneum. The mucous membrane round the perforations was blackened and partially eroded. These perforations, when the stomach was *in situ*, corresponded with the alterations of structure in the diaphragm. With respect to the rest of the stomach, it evinced the appearance of intense phlogosis, the vessels being injected, and the intervening surface red, but not uniformly so; this was also the case throughout the whole course of the duodenum.* Externally, the rest of the intestines appeared sound, but there was not sufficient time to examine their inner surfaces. The left lobe of the liver was partially covered with irregular yellow spots, which alteration of texture did not proceed further than the surface.

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* Paley's Natural Theology, illustrated by Plates and Explanatory Notes, by James Paxton.

The interest of the preceding case is considerably augmented, from its having been made the subject of medico-judicial investigation. The soldier was not brought to trial, as he was acquitted after I had given my evidence before the grand jury of the county; but certainly, had that not been the issue, I should have felt myself obliged to have given such a statement, as would have produced an impression on the minds of the jury, that the violence committed on the person of the deceased was but a secondary and inferior cause in producing his death. Because, contrary to the opinion of most of our English physiologists, I am inclined to believe, that perforation of the coats of the stomach mostly, if not always, takes place before death, setting aside, of course, that which is producible by poisons. It would, however, take up too much space to enter into a discussion of the arguments on both sides of the question. False inferences have been drawn from Spallanzani's experiments, vide Paris's Jurisprudence, 2d vol. p. 165; these will be evident upon perusal. Hunter, Adams, Burns, and others, have admitted the post-mortem and ante-mortem dissolvent powers of the gastric juice, founding their opinions on very gratuitous premises. The *fact is, the gastric juice has no dissolvent powers at all, at least not more than what is possessed by any other watery and mucilaginous secretion.* It is only secreted after the deglutition of food, and so far from being designed for digestive purposes, there is no evidence to prove that it is secreted in larger quantities than suffice to lubricate the coats of the stomach in common with those of any other viscus, and prevent the adhesion of the food. We see men drink enormous quantities of fluids without injuring their digestive powers, in which case the gastric juice, as it is quaintly termed, together with the saliva, would be diluted so as to lose all its energy, if it had any, unless, indeed, it possesses the miraculous power of communicating it to other fluids. The gastric juice can possess no such properties, any more than the mucus of the bladder, or gall-bladder, could serve to diminish the fluids of which these viscera are the recipients. I beg to refer the reader to the excellent observations of Meckel, Chaussier, and Breschet, on this subject. "How is it," says the latter writer, "that we never observe perforations in the stomachs of those who are starved to death?" This would evidently often be the case, if the gastric secretion possessed any such properties. *Every hollow viscus in the body may undergo the perforative process,* in which assertion I am borne out by the experience of Andral, who also informs us, that there is not a single point from the mouth to the anus, which has not been found perforated after death; so that either the gastric juice does not possess this sarcophagic property, or the secretions of the intestinal canal, (in men as well as in herbivorous animals,) of the bladder, gall-bladder, the different excretory ducts, &c., all do. This solvent power of the ventricular secretion, is of a-piece with that once attributed to pus, and the belief of it is unworthy the pathology of the present day. It is amusing to recall to mind the powers which were formerly attributed to this secretion, viz. that of being able to dissolve bones, clay, metals of different kinds, and stones; being, as Paley observes in his Natural Theology, in *his* observations on the gastric juice, stronger than "caustic alkali, mineral acid, red precipitate, or aqua-fortis itself, while it is, at the same time, as bland and mild as gum water or saliva." If all this were the case, it would have a just title, indeed, to the name of "the chemical wonder of animal nature," as the worthy bishop calls it. But, as with tribute, let us give wonder where wonder is due, having things of marvellous-enough properties in the world to contemplate, without producing others, which are *effete* with them, and then setting them up to stare at.

In the enumeration of my authorities, I have omitted to quote Orfila's excellent work on Toxicology, Vol. II., p. 570, where the reader will find some interesting cases, to which I would add a few, which I have had the pleasure of hearing him instance in his lectures; but that I fear I have already taken up too much space. I shall, however, just add, that of at least one thousand bodies, which I have either examined, or of which I have witnessed the examination, I have not seen more than a very few cases of perforation. I wish to make a few other observations on subjects which I deem of importance, but will defer them to another opportunity.

From the Medico-Chirurgical Review.

DISTRESSING CASE OF NEURALGIA.

[For Consultation.]

The motives which lead us to publish the following most melancholy and terrible case will be readily appreciated. It is with the view (would that we could say HOPE) of eliciting some suggestion that may tend to mitigate the sufferings of an afflicted member of our own profession.

Mentem mortalia tangunt!

The patient is a surgeon, retired from the East India Company's service, and in the 59th year of his age. About nine years ago, a pound of gun-powder (in a cannister) exploded in his left hand, by which the bones of the thumb were fractured, and the soft parts about the palm of the hand much lacerated. The wound was dressed, and the case appeared to be doing well till the tenth day, when the sloughing process took place, which was followed by a profuse hæmorrhage, at first thought to be of venous blood. This was restrained by pressure; but it repeatedly recurred, and proved to be arterial. Several attempts were made to secure the vessel by ligature, but all in vain. Two medical gentlemen (Dr. S. and Mr. C.) advised ligature of the radial artery. The vessel was taken up by the latter gentleman, but unfortunately the radial nerve was included, and when the ligature was drawn, the patient started up involuntarily from the recumbent to the perpendicular posture, and felt a most dreadful pain dart *from the occiput to the forehead.* This pain was of short duration, but ever since that time he has been subject to headach. The hæmorrhage returned the same day, and Dr. S. in hopes of reaching a sound part of the palmar arch, removed the thumb, at its carpal junction. This operation also failed, and hæmorrhage again returned during the night. Being now much reduced, the patient himself determined on amputation, and the operation was accordingly performed the same night. But new misfortunes seemed destined for the unfortunate patient. While the surgeon was in the act of sawing the bones, the assistant let the soft parts fall into the teeth of the saw. "The pain," says the patient, "at this moment, was most exquisite; that produced by the circular incision was pleasure compared with it. The sensation was as if melted metal were poured into the wound." One or two more strokes of the saw completed the operation, and the pain ceased. Before the wound healed, two sloughs came away in the direction of the blood-vessels, nearly three inches in length, after which cicatrization proceeded rapidly. But great pain, referred to the lost hand, continued, and the patient felt as if the left hand was still attached, and in a high state of inflammation, with the fingers rigid and immoveable. There was also a sense of pain in the region of the cervical vertebræ, with distressing headachs, especially when any acidity prevailed in the stomach. Nevertheless the appetite continued excellent. With the view of getting rid of these painful sensations, the patient visited Edinburgh, London, and Paris, where he consulted the most eminent of the faculty in each capital. The majority of these recommending a second amputation of the arm, as the most effectual means of relief, the operation was performed by Mr. Wardrop, between three and four years ago, in London. His evil fate pursued him from North to South! In about twelve hours after the operation, hæmorrhage took place, and Mr. W. was obliged to open the wound to search for the bleeding vessel. This opening of the stump gave him more pain than all the operations he had previously undergone! The stump, after this, healed very quickly; (the amputation was performed five or six inches above the elbow) but, alas! the original sensation referred to the lost hand remains as intense as ever! Since the last operation, the patient has been gradually losing ground, and, with the exception of a good appetite, he is suffering under all the usual symptoms of dyspepsia. In addition to the pain referred to the absent hand, the patient is harrassed with constant spasms in the biceps and other muscles of the arm, and subsultus. There is also a continual tinnitus in the left ear. He takes a good deal of exercise, but still his sufferings are on the increase. Every thing he eats is disposed to turn acid, and when acidity obtains in the stomach, all the above-mentioned phenomena are greatly exasperated. "I find there is a small hardened portion of substance on the face of the stump, connected with the muscles, very painful on pressure, (the sensation always referred, even then, to the lost hand) and which appears to me to be a matting of nerves."

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* This was quite observable after the parts had been a week macerating.

Previously to the last (second) amputation, Sir Astley Cooper advised merely the removal of the extremities of the nerves on the face of the stump. Mr. Abernethy was averse to any operation, and recommended blue pill. We have ourselves consulted several eminent surgeons and physicians, but their opinions have been very various. Sir Henry Halford is of opinion that the extremities of the nerves on the face of the stump are in a state of disease, and are the cause of the patient's sufferings. He recommends another amputation, which he has known to succeed in two instances. We forbear to state any opinion on the subject, at present; but solicit the opinions of others. The patient is employing every means of improving the general health, and especially the state of the digestive organs.

It will be acknowledged that there is hardly to be found on record a more melancholy, unfortunate, or distressing case, than that which is here sketched out. As occurring in the person of one of our own profession, it is doubly interesting, and calculated to call forth our sympathy. Any suggestion communicated to the Editor of this Journal will be conveyed to the afflicted patient.

From the Medico-Chirurgical Review.

REMARKABLE CASE OF NEURALGIA.

By Mr. Dod.

Among the numerous suggestions that have been transmitted to us respecting the distressing case of neuralgia, published in the present Number of this Journal, there is a case related by Mr. Dod, late of Bath, and now of Caroline Street, Bedford Square, which we deem it a duty to communicate to the public, and that in the words of the communicant.

"The distressing case of neuralgia inserted for consultation in a recent fasciculus of the Medico-Chirurgical Review, induces me to communicate some particulars of a most inveterate case of this complaint, which occurred in the person of an officer, who had been most dreadfully lacerated by a tiger in the East Indies.

"The patient was a Lieutenant Saunders, (now Captain) of the East India Company's Service, about 38 or 40 years of age. This gentleman, after having resided in India about eight or nine years, was recommended to return to England on account of a liver-complaint, the sequela of a *jungle fever* he caught during some military operations in which he had been engaged in the country. After a short residence in England, his health being restored, he again returned to India. Upon his return, and during some part of the Poona war, in which he was conspicuously engaged, he one day incautiously approached a tiger, which sprang at him, and lacerated him in a most dreadful manner, destroying with its claws almost all the pectoral muscle, and other motors of the humerus, of the left arm. The tiger having left him, he lay in this mangled condition for a considerable time before assistance could be procured, during which interval he bled profusely. He recovered from his wounds; but there supervened one of the most distressing neuralgic affections of the body that can well be imagined. He became afflicted with violent headachs, which increased to such a degree of severity, as sometimes to deprive him of reason. Coupled with these distressing headachs, there was great pain in the lacerated parts, with subsultus of the muscles and tendons, which frequently extended to those of the body, giving to the spectator the idea or appearance of its being an epileptic fit with which the patient had been seized. His digestive organs were much disordered, and his food in general disagreed with him. When his stomach was most out of order, all his sufferings were exasperated. These distressing complaints continued to increase in severity from the time of the accident until I saw him, about two years ago, at Truro, to the neighbourhood of which place he had retired to pass the remainder of his miserable life, after having sought relief from some of the most eminent of the faculty in London and other parts of this country. When I saw Mr. S. he exhibited a most distressing spectacle;—His body was emaciated—his countenance was pale—his lips blanched—and his features shrunk. The functions of his digestive organs were much disordered. His extremities were, in general, cold; and his pulse, which was small, beat about 120 strokes in a minute. When paying my second visit to him, I had an opportunity of witnessing one of those nervous seizures above-mentioned, and of noting its progress. The subsultus commenced in the muscles of the lacerated arm; then extended to the eyes and muscles of the face; and, lastly, over the whole body. Some of the muscles seemed in a spastic state, whilst others were in a state of subsultus. He did not struggle! In this condition he remained about ten minutes, and then gradually recovered. On the preceding night, he had suffered severe pain in the lacerated parts, with violent headach; the latter symptom continued after the seizure. Although the subsultus frequently took place in the lacerated parts, yet it did not always extend to the body.

"I prescribed the following medicines, which had proved successful in a severe case of neuralgia a few years before.

"℞. Extract. colocynth. comp.—extr. jalap.—extr. alois spicat. āā ℈ij. Mass. pilul. hydrarg. ℈j. Contunde et divide in pilulas xxx æquales.

"Capiat decoct. sarsapar. simp. ℔j. quotidie.

"Balneum calidum 3tio vel 2ndo die.

"I ordered him to take one, two, or three of the pills *every night going to bed*, so as to produce, the next day, two or three evacuations from the bowels. The sarsaparilla he took regularly every day, but the warm bath was not attended to so regularly as I could have wished.

"These were the *only* medicines and means made use of, until my patient perfectly recovered, which he did in *twelve weeks* from the time I first saw him. He embarked the following spring for India, and has continued in good health up to the last accounts I heard of him."

From the Medico-Chirurgical Review,

CASES OF PNEUMO-THORAX. M. RAYER.

[Hospital St. Antoine.]

Of all the cases of pneumo-thorax, the most frequent is the opening of a pulmonary excavation into the cavity of the pleura. This accident is by no means so infrequent as some people imagine. Two cases have been witnessed in the above-mentioned hospital, in the course of a few months.

Case 1. *Pulmonary Tubercles—Perforation of the Left Lung—Pneumo-thorax—Considerable Displacement of the Heart.*

Sophy Gonce, aged 23 years, married, and the mother of one child, became affected with catarrh and palpitation of the heart some time previously, and stated that about six weeks before her entrance into hospital she felt something give way, while in the act of coughing, followed by great difficulty of breathing, [obliging her to remain in a particular position, to be noticed presently] palpitation in the *right* side of the chest, and some spitting of blood. On the 11th of March, the day after she entered the hospital, she presented the following phenomena:—The respiration, short and embarrassed, compelled the patient to remain, day and night on her knees and elbows in bed, the trunk inclining a little sometimes to the right, sometimes to the left. On percussion, the whole of the left side of the chest was extremely sonorous, while the right side sounded dull. The breathing was loudly heard in the upper part of the right side of the chest—no respiration in the left side. In the act of strong inspiration, however, a curious sound was heard through the stethoscope, resembling the blowing of air into a large bottle, (respiratio amphorica)—while, in gentle respiration, the tintement metallique (or sound of a drop of water falling into a bottle half full) was distinctly heard. The pulsation of the heart was evident in the anterior part of the right side of the chest. M. Rayer wrote down in the case-book, as diagnosis—"*pulmonary phthisis—aperture of an excavation into the left pleura—communication of one of the bronchia with this cavity—heart in the right ride.*" M. Rayer thought this last was congenital; but in this his diagnosis was wrong. The symptoms above described continued, with little variation, till she died, on the 29th of March.

Dissection. The left side of the chest appeared more bulged out than the right, and the intercostal spaces wider. When the left side was opened, a strong gust of air rushed out—the lung was found to be almost annihilated, and the pleura covered every where with false membranes. An aperture was readily discovered in the lung, through which the air escaped into the cavity of the chest, when a pair of bellows was applied to the trachea. On more minute examination, a small excavation was found at this place, communicating with one of the bronchia. In the right side there was nothing particular. The heart had evidently been pushed over by the air in the left side of the thorax. There were tubercles in both lungs.

Case 2. *Pulmonary Tubercles—Perforation of the Left Lung—Pneumo-thorax—Displacement of the Heart.*

Lemaire, aged 24 years, married at the age of 15, and has borne six children. She entered the hospital on the 17th April, 1828. Stated that she had had some attacks of hæmoptysis the preceding year—and always brought up much expectoration, with very little cough. On examination, pectoriloquism was heard under the right clavicle—the respiration audible behind on both sides. Percussion did not elicit any thing particular. On the 25th April, the patient was found sitting on her bed breathing very laboriously, and complaining of an acute pain under her left breast. On examination by percussion, the left side of the thorax resounded very loudly—the respiration was extremely short, and incapable of being performed in the recumbent posture. When the ear was applied to that side no respiratory sound could be heard, but only the "TINTEMENT METALLIQUE," as in the former case. Succussion was practised, and a fluctuation was distinctly heard in the chest. The right side was also sonorous, in a natural degree, and pectoriloquy was recognised under the right clavicle. The patient was occasionally seized with a paroxysm of coughing, during which she brought up a trifling expectoration, exhaling a most intolerable odour. The lower and anterior part of the right side sounded dull, on percussion, and here the pulsation of the heart was distinctly heard. The tongue was red—there was thirst—inclination to vomit—diarrhœa. *Diluents and abstinence.* Between the 25th and 30th the patient continued in nearly the same state, and she was visited by several physicians, among others M. Bricheteau, all of whom agreed that the disease was pneumo-thorax. The left side of the chest became more and more bulged out, and the intercostal spaces wider. Between the 1st and 4th of May, the symptoms were a little mitigated, and the patient walked about the ward a little every day. On the latter day, she was suddenly seized with an increase of the dyspnœa, and quickly expired.

Dissection. MM. Rayer, Kapeler, and Bricheteau, assisted at the examination. The right cavity of the chest was first opened, and there the heart was found to be located, being pushed over from the opposite side. The pleura of the left side was seen to be distended with air, and quite transparent. On being opened, a quantity of this fluid rushed out. The cavity contained a moderate quantity also of sero-purulent fluid, mixed with shreds of false membrane. The lung of that side was reduced to one-eighth of its natural dimensions, and compressed against the spine. The whole of the pleura was covered with false membrane, very thin in substance. A small aperture of communication between the air-tubes and the cavity of the chest was discovered in the contracted lung. In this channel of communication there was a small excavation, into which two or three bronchial tubes opened. Both lungs contained tubercles, and there was some bronchial inflammation.

Remarks. The foregoing cases are very interesting in themselves; but we think our readers can hardly fail to perceive that the accuracy of the diagnosis was not turned to any practical utility in the way of relief to the patients. Now we must acknowledge that the two individuals above-mentioned did not present, on dissection, any organic disease incompatible with life—or, at least, with a prolongation of life. They evidently died in consequence of the effusion of air into the cavity of the chest compressing the lungs, displacing the heart, and impeding the vital function of respiration. They were, in fact, placed as nearly as possible, in the same situation as individuals who had been wounded in the lungs by a small sword, or by the fractured ends of the ribs. Why, then, hesitate to make an opening through the intercostal spaces, and extricate the effused air? Every time the patient breathed, some air was forced out into the cavity of the pleura, and it could not get back again through a valvular opening. The obvious remedy was a free exit from the chest, till the channel of communication closed. The operation could not have added to the danger of the patients, and it would have given them a temporary relief at least. We are the more surprised at the inactivity of the medical attendants, in the above cases, seeing that Laennec advises the operation "whenever there is imminent risk of suffocation." We shall introduce an extract from Laennec, touching the treatment of pneumo-thorax.

"*Treatment.* The exact diagnosis of pneumo-thorax, and of each particular variety of it, must not be considered as a matter of purely speculative knowledge, or as useful only in respect to the prognosis of the disease. It is extremely probable, as has been remarked by Hewson and Ruller, that simple pneumo-thorax is the case which holds out most prospect of success from the operation of puncturing the chest. This opinion is corroborated by an observation of Riolan, who informs us that he had several times seen the operation of paracentesis successfully performed on patients considered as affected with dropsy, but from whose chests only air made its escape. In cases of this kind, the puncture with the trocar would unquestionably be preferable to incision. But I would here remark, that, exclusively of the great infrequency of the simple pneumo-thorax, I think it must be generally considered as of no great severity, the gas being more readily absorbed than the liquid effusion. I think myself justified, at least, in drawing this conclusion from the frequency of gaseous effusions in other situations, which disappear spontaneously, and frequently in the course of a few days or even hours. Of this kind is the pneumo-pericardium, and the various kinds of *pneumarthrosis*, particularly that of the knee, which so frequently arises during the convalescence from articular rheumatism, as well as in other circumstances. On this account, before proceeding to puncture the chest, we ought to endeavour to excite absorption by aromatic and spirituous frictions, and by the internal use of slight tonics.—Pneumo-thorax complicated with liquid effusion and still more with pulmonary fistula, is a case of a most serious nature, and leaves little hopes of a cure being effected. This, however, must not be considered as quite impossible, even in the severest cases. I formerly proved the possibility of the cicatrization of tuberculous excavations; and the observations of Bacqua, Jaymes, and Robin, (Journ. Gen. de Med. 1813,) to which I could add a more recent case of the same kind (I mean cases where the patients recovered after the operation of empyema, although the injections thrown into the wound were found to be discharged by the mouth) sufficiently prove, that, even in such cases, we may attempt this last resource with some prospect of success. Even Nature by herself may sometimes overcome more or less completely, a lesion of the kind in question, as I shall show in a case to be detailed at the end of the present chapter. I saw another case of the same kind in 1820, in a man who came on horseback thirty leagues, to consult me. In this person there was every sign of the complication in question existing on the right side. The disease was of two years' standing, and nature had already made considerable progress towards a cure, as the affected side was evidently contracted. I ascertained in 1824 that this man was still alive, and attending to his business; he was improved in health, though still an invalid. It cannot be denied, however, that cases of this kind are exceptions to the general rule; and that the two last varieties of pneumo-thorax afford much less chance of success from the operation of empyema, than the simple effusion, whether of air or liquid. Accordingly, I think that we ought never to attempt this operation in such cases, *unless there is imminent risk of suffocation, or rapidly increasing emaciation and debility;* and never after the long continuance of the disease, unless the lung on the sound side, gives no indication of tubercles. In every other case, I think that we ought to content ourselves with supporting the patient's strength, promoting absorption by the means formerly mentioned, and by a regimen regulated according to the state of the digestive functions,—neither too rigid nor too analeptic."

From the Edinburgh Medical and Surgical Journal.

CASE OF SPONTANEOUS FORMATION OF A PRETERNATURAL ANUS, *with Steatomatous Tubercles of the Liver, where life continued long under extraordinary circumstances.* By WILLIAM HENDERSON, M.D. Perth.

April 3, 1826.—G. D., æt. 8 years, has been from August last liable to severe fits of obstruction in his bowels. With this exception, he has been a healthy and vigorous boy from his infancy. After one of these attacks, which was overcome by croton oil, scammony, gamboge, &c., his bowels acted regularly without the aid of medicine; his appetite, however, did not return; he became daily more feeble, and lost flesh very fast; the skin was hot and dry; the tongue moist, but furred; the pulse 120; his stools passed copiously every morning, clay coloured, and of yeasty consistence, with glistening scum on the surface; urine seldom passed, except when his bowels were moved, and then, and at all other times, with much pain; the little food he took was often rejected. Three days after the yeast-like stools appeared, he entirely lost the power of his lower extremities.

As the idea or appearance of medicine excited vomiting, one grain of calomel was mixed in his food three times a-day, without his knowledge. The food so medicated was at first almost immediately rejected; after a little time he generally retained it for one or two hours. Matters went on in this way for ten days, when his bowels became more relaxed. In place of one copious stool in twenty-four hours, he had now three or four, while, at the same time, his abdomen rapidly enlarged, and was tense and painful to the touch. After this he recovered the use of his limbs, and the urinary symptoms entirely disappeared. His abdomen, however, continued to enlarge, the discharge from his bowels to increase, and the other symptoms also to gain ground; I therefore ordered him to be put into a warm bath impregnated with nitro-muriatic acid. After the bath he slept better, his appetite at the same time rather improved; but the fatigue of moving him was more than his feeble strength could bear, and I therefore substituted sponging for the bath.

At this period my friend Dr. John Thomson of Edinburgh was consulted by letter. He recommended assafœtida and anodyne enemas. The enemas had the effect of greatly diminishing the alvine discharge, but the abdomen enlarged in proportion, and the vomiting, which had not been troublesome from the first time he was bathed, returned. After being used for three days without success, the enemas were discontinued, and in two days more the discharge from the bowels resumed its former quantity and quality, and his stomach again retained the little food he took. His body became emaciated to the last degree, and his strength so much exhausted that he was unable to turn himself in bed without assistance. His abdomen was greatly enlarged, and very tender all over, but particularly about the umbilicus.

May 25th.—His case appeared to myself and all who saw him to be hopeless. As a last resource, I determined on making trial of iodine, and began with ten drops of the saturated tincture morning and evening, gradually increasing the dose to thirty drops. From this time he improved daily; his appetite in a few days became keen; the abdomen gradually decreased in size, and every day became less tender; his strength and flesh also improved rapidly. Ten days after he first took the iodine the right testicle became painful and enlarged. As the iodine he took rested well on his stomach, I gave him an additional dose daily, at first fifteen, afterwards thirty drops; cooling lotions being at the same time applied to the testicle. In seven days the left knee swelled and became stiff and painful; but the testicle showed symptoms of amendment, and fifteen days from the time the knee began to swell, all traces of disease in the testicle were gone. The alvine dejections also improved; the skin became cool and moist; the pulse 130; his appetite good; and he slept well.

June 15th.—The bowels have been regular ever since he took the iodine. (27th.) The belly is still decreasing in size, and is no longer tender. His knee is still a little stiff and swelled, but is fast improving,—in other respects, too, he is every day getting better.

July 1st.—I sent him to sea-bathing, with orders to go on with the iodine, and to have the body sponged night and morning with sea water. (8th.) In consequence of a fall to-day, he struck the left knee on a stone, and was attacked with such acute pain in the joint as rendered every attempt at motion intolerable. As soon as I was informed of the accident I directed him to be brought home; but eight days elapsed before he could be moved. (16th.) On returning home this day I found the knee swelled and painful on pressure and motion, but his health otherwise as good as on the 1st. (19th.) He has been five days without iodine. A fresh supply was ordered, and the same doses given. Next day he complained of pain in the bowels, was dull and languid, and had little appetite; the belly, however, was almost of the natural size, soft, and hardly at all tender, and the swelling of the knee was diminishing. The iodine was therefore omitted, and on the following day the pain in the bowels had ceased, his appetite had improved, and he was more lively. On the 25th, the iodine was resumed in the dose of fifteen drops twice a-day, but the paroxysms of pain of the bowels returned so severely that it was abandoned on the 26th. Next day the pains had abated, his appetite, which had entirely ceased, returned, and the evacuations were regular. The tormina, however, continued to recur at times for seven or eight days after; but on the 4th of August they ceased entirely, the appetite all the time improving, the evacuations continuing natural, but the pulse generally about 130. There was now fluctuation on the inside of the knee, and I proposed to evacuate the matter; but he would not give his consent till three weeks after, when it was evacuated with the lancet. From this time he improved steadily till December.

In December he had a very severe attack of hooping-cough, which he did not get entirely quit of till spring. During the winter the knee discharged a great deal of matter. In July 1827 I sent him to the coast, but he returned in three weeks not much benefited, as the weather had been very cold and wet. The knee then began to improve; but in proportion as it looked better, he lost flesh and strength, till he was sent again to bathing quarters, where his spirits, appetite, and general health improved somewhat. About the middle of September the discharge from the knee dried up almost entirely; but from that time his appetite and strength failed; the abdomen began to enlarge, and to be affected with twitching pain round the naval; he had frequent vomiting after taking food, the bowels became relaxed, and in a few days his emaciation was very much increased. At last the umbilicus became tender and discoloured, and on the 29th it gave way and discharged a great quantity of matter. On being suddenly summoned to visit him during the night, I found a small opening in the centre of the umbilicus, through which feces and particles of undigested food passed freely. A compress and bandage were applied, and he was directed to be kept very quiet. Next morning I learned that he had slept well, and had a natural evacuation; his appetite was improved, he had no pain, and no inclination to vomit. On the following day he continued to improve, and was less apprehensive of himself. On the 11th the discharge from the umbilicus had ceased. Till this time his improvement was progressive. Now, however, his appetite failed, and a profuse diarrhœa commenced, which, notwithstanding the liberal employment of kino and catechu, wine and brandy, continued excessively till the 15th, and reduced him to an extreme state of weakness and exhaustion. The discharges by stool then gradually became less abundant, when at length on the

18th, the umbilical discharge returned profusely, and relieved him much. Matters went on in this way during the rest of the winter. When the wound discharged freely, which it generally did for three or four days, his appetite improved, he was more cheerful, and slept better; but when the discharge diminished, which usually was the case for six or eight days, he had sickness and vomiting of food. When it dried up altogether, which was the case for a week at one time, it brought on the same profuse alvine discharge as above, and brought him again to the point of death, until a fresh discharge relieved him.

Early in November 1827, some fulness and hardness were first observed in the epigastric region, and continued to increase till his death. Towards the end of January 1828, small circular elevations were felt on the surface of the fulness in the epigastrium; these also went on increasing. As the enlargement increased in the epigastrium, the quantity of food he could take at one time diminished, and latterly almost every attempt at taking food brought on vomiting. During all this period his bowels were pretty regular; the tongue was always quite clean and moist, and of a bright cherry colour; the pulse always about 130; the skin generally natural. The disease in his knee, which had been in a state of inactivity from September 1827, in February 1828 began to throw out more matter.

February 24th.—The stomach will now scarcely receive any thing. He complains often of sickness, and faintness, and has not been able to be out for the last two days; bowels very lax; extreme emaciation. Notwithstanding his extreme weakness he cannot be persuaded to lie in bed, on account of the uneasiness he feels in the recumbent position. He finds most ease in a sitting posture, with his head resting on a pillow placed on a table before him.

Matters went on in this way till the 2d April, when he died. For six hours previous to his death his sufferings were extreme, and their termination afforded no small relief to those who witnessed them.

Dissection.—Twenty-four hours after death, my friend Dr. John Stewart kindly assisted me in the examination of the body. External appearance. Extreme emaciation; the wound in umbilicus gangrenous; great distention in the epigastrium. On laying open the abdomen the liver was the first object that attracted our attention; it occupied the whole of the upper part of the abdomen, and by its great size had forced up the false ribs on both sides. The muscles, peritonæum, and liver, were all found firmly adhering together, and could not be separated but by the scalpel. The convex surface of the liver was profusely studded with steatomatous tumours, varying in size from a pullet's egg to a pea, and all deeply imbedded in its substance. We were obliged to dissect the liver from the diaphragm, bowels, and spleen, to which it firmly adhered. After tying a ligature round the extremities of the stomach, and dividing the œsophagus and duodenum, the whole were removed out of the body. The stomach and pancreas were found closely adhering to, and indeed imbedded in the substance of the liver; and after searching in vain for the right kidney elsewhere, it also was found buried in the substance of this gland. The tumours were smaller, and much less numerous on the concave than on the convex surface of the liver. The liver weighed four pounds ten ounces, and its substance was of a pale colour, and so soft as to give way under moderate pressure. The gall-bladder was moderately distended with apparently healthy bile. The pancreas adhered closely to the liver and stomach, and was completely steatomatous throughout its whole substance. The stomach was very small, and much thickened where it adhered to the liver and pancreas. The kidneys were larger, softer, and of a darker colour than usual, but presented no other form of disease. The parietes adhered so firmly to the viscera, that they could not be separated without the scalpel, except at that part of the *parietes abdominis* which formed the anterior wall of the sac about to be described. The intestines were of a deep bluish purple colour, highly vascular, and everywhere agglutinated to one another, and to the surrounding organs.

The opening through the umbilicus was found to run into the arch of the colon; the opening into which was from three and a-half to four inches in length on the under side. The bowel was much thickened, was in a state of great expansion, and formed the superior wall of a sac, which, when in a state of distention, we supposed might contain from sixteen to twenty fluid ounces. The anterior wall was formed by the *parietes abdominis*, and the posterior by the intestines in a state of complete adhesion. The intestines here had their coats very much thickened, and their vessels gorged with dark-coloured blood. The sac contained feculent matter.

The mesenteric glands formed one congeries of tumours, exactly resembling those on the liver, and varying in size from a large walnut to a pea.

The bladder was free from all appearance of disease.

Thorax.—The lungs adhered slightly in many places to the pleura, were partially hepatized, and generally of a darker colour than usual; but no induration or any other form of disease was observed in their substance.

The heart was unusually small, and the pericardium in close adhesion to its surface in every part. A large pale-coloured polypus was found in each ventricle, but not even the appearance of blood. The head was not examined.

The morbid appearances now detailed were not less extraordinary than the symptoms during life, and cannot fail to be highly interesting to the pathologist. The close adhesion which was found to exist between every part of every organ in the abdominal cavity must, I think, have been the consequence of the violent abdominal symptoms he had previous to 25th May 1826, and must have existed from that period; for from about the middle of the following month to the time of his death, he did not complain of pain or tenderness of his belly, with the exception of that which existed about the umbilicus before it burst. The seat of this tenderness was found to correspond exactly with the size of the sac above noticed. That he was indebted for the last six months of his existence to the adhesion of the abdominal viscera, by which the contents of the colon were prevented from surrounding the organs contained in that cavity, I think will not be doubted. The light and the size of the room in which the body was placed, and the time allowed for the examination of it, precluded the possibility of the dissection being conducted with that minuteness and attention which such an extraordinary accumulation of diseased structure required. Enough, however, has been observed to render the continuance of life under such circumstances little less than miraculous. And at last his life seemed to us to have been terminated by the mechanical pressure of his enormous liver, rather than by the change of structure that disease had made in it or any of the other viscera. This pressure satisfactorily explains the inability of the stomach to receive food, and also his partiality for a sitting posture. It was also owing to this great pressure of the liver that the spine had yielded; for the concavity of the spine was found to correspond exactly with the convexity of the liver lying over it. That the action of the heart was impaired by the adhesion of the pericardium cannot, I think, be doubted. The uniformity of its action was very remarkable;—for the last two years and a half of his life I never observed his pulse to vary from 130. From the excessive accumulation of disease in his system, and the well known sympathy existing betwixt the different parts of the human body, it would naturally be supposed that life to him would have been destitute of enjoyment. But the case was otherwise; for, with the exception of what he suffered from the knee and from hooping-cough, the term uneasiness would better express his sufferings from June 1826 till the time of his death, than that of pain. It will readily be here understood that I speak generally. His constancy and despatch in his ordinary avocations were only exceeded by the vigour and acuteness of his mind. His reasoning faculties were of the highest order. A mind like his, necessarily often pondering on his bodily sufferings, could not fail to be inquisitive. Consequently his questions to me were neither few nor always easily answered; if my answer happened to be unsatisfactory, I was immediately called on to support it by a reason; and if any fallacy or feebleness existed in my arguments, they were either immediately pointed out by him, or dexterously turned against me.

From the Lancet.

A CASE OF HYPERTROPHY AND RUPTURE OF THE URINARY BLADDER.

By Arthur Garry, M.D.

Benjamin Morgan, æt. 32, of the sanguineo-melancholic temperament, small in stature, but stoutly made, had a gonorrhœa about five years ago, of which he was quickly cured; but shortly after, the stream of his urine became smaller than usual. It continued so for a length of time, but as he suffered no pain, he did not consider that any evil consequence would result. He continued in this state for more than three years, without any unpleasant symptom exhibiting itself, more than that he was obliged to increase his efforts to discharge the contents of the bladder. Within the last year, the difficulty in passing urine became much greater, and, at intervals, was somewhat distressing; but it never amounted to an actual stoppage till the present attack. During all this time he pursued his business—that of a newsman, serving newspapers at the houses of citizens and at public offices, his general health being pretty good. He occasionally indulged in the use of spirituous liquors, but was not a habitual tippler. He never took medical advice for the urinary symptoms, as he considered his disease to be gravel, which, though it might annoy him, yet he believed it would never kill; hence he neglected to take any remedy.

When I was called to see this man on Friday, the 25th ult., at 22 Charles street, I learned the above particulars. I found him in great agony: his abdomen was greatly distended, and so painful that the slightest touch occasioned him to scream; there was at intervals, or when he took any drink, violent vomiting; his pulse was quick and tremulous, his countenance miserably anxious, and his breathing very much hurried. These symptoms, as I was informed, came on rather suddenly. The evening before, he was in his usual state of health, and went to stool, when, without any previous pain, he felt something, as it were, jump up suddenly in his belly; and from that moment he became unable to pass any urine, neither could he discharge the contents of the bowels. After some little time his belly swelled, and he was very sick. An apothecary was sent for, who introduced, or attempted to introduce, a catheter; for I could not learn whether the instrument had passed into the bladder or not. No urine, or fæces, had been discharged for nearly twenty hours before I saw him. I attempted to introduce a tolerable-sized catheter which I had with me, but I found it impossible to get it in further than about two inches and a half, the urethra being hard and contracted within that distance of its orifice. From the great distention of the abdomen, the feel of fluctuation even as high as the epigastric region, and the man stating that he did not feel as if he had any water to make, I was led to suspect that the bladder had burst. While I went to obtain a small sized catheter, I ordered him to be bled, to have pills of colocynth, calomel, and opium, followed by a terebinthinate enema, and to have occasional doses of effervescing mixture. I also directed that a warm bath should be procured. On my return, I found that the medicines had produced one copious dejection, but no urine had passed; and he expressed himself much relieved by the bleeding and the discharge from his bowels. As a warm bath could not be procured, I tried without, to introduce a very small-sized catheter, which, after much resistance and some delay, I got into the bladder, but no water came. This confirmed my suspicion that the bladder had burst. I felt something opposed to the end of the instrument, which, from its elastic feel, I thought to be a polypus of the bladder. I withdrew the instrument, and gave my opinion to his friends that his life could not be preserved. In the course of the evening all his symptoms became aggravated; violent stercoraceous vomiting came on, and he expired in the course of the night. I obtained leave to open the body the next day, when the following appearances were observed:—On cutting through the parietes of the abdomen into its cavity, there issued out about three quarts of urine. The peritoneum was much thickened with flakes of coagulable lymph dispersed upon it. The villous coat of the stomach was very vascular, and somewhat thickened. The lining of the duodenum was more vascular than natural; but, on the whole, there were little more than signs of incipient inflammation throughout the remainder of the intestinal canal, which was occupied entirely by flatus. I put down my hand into the pelvis, to feel for the bladder, and discovered it projecting a little from under the pubes, in the form of a hard, scarcely elastic mass, like to a scirrhus uterus. By removing the intestines, I viewed it *in situ*, and on the posterior part I found it thin for about an inch square, in the middle of which was a hole with three flaps, evidently produced by rupture. There was no mark of ulceration. The sides, in all directions, with the exception of this small portion, were increased in thickness to about half an inch, hard, and almost as unyielding as cartilage. In cutting, it offered much resistance to the knife, giving a sensation to the hand as if the blade was passing through bundles of whip-cord. The interior presented large bundles of white strong cords, resembling small catgut strings, intersecting each other like the musculi pectinati in the heart, but more prominent, and leaving the interstices more marked and deeper. The mucous covering on those was smooth and glossy, but scarcely thickened. The cavity of the organ was lessened in all directions, and could not contain more than four or five ounces of fluid. The space on the posterior part, which remained thin, was the only portion which was yielding, and this seemed to have been much stretched before it gave way. Round the spot where the rupture took place, the characteristics of the parietes of this organ were lost; as, by the slightest press with the finger, it would tear with edges, as if a cutting instrument had been applied. As I was anxious to get it away, for the purpose of making a preparation, I was obliged to effect my purpose clandestinely, and with expedition, and I cut it out, taking the prostate gland with it. This gland was a good deal diseased, having a proportionable increase in size to the coats of the bladder. It was hard and unyielding, and cut like semicartilage. If cut from the bladder, by itself it would weigh about an ounce. There were several strictures of long standing in the course of the urethra, and it was these, and the diseased state of the prostate gland, which gave such resistance to the introduction of the smallest sized catheter. The ureters were enlarged to some distance up from the bladder. I did not get time from the friends to examine the kidneys, and all I could learn was, that the man never complained of any unpleasant sensation in the regions of these organs during life. I have made a preparation of the bladder and prostate, which I have presented to my talented friend, Dr. Davis, of this city, for the instruction of his pupils.

The only inference which I would venture to make from the preceding imperfect detail, is, that the strictures in the urethra were the primary cause of the increased growth of the bladder. They continued for more than four years, offering resistance to the passage of the urine, and consequently for the same space of time the muscular fibres of the bladder were excited to more than usual efforts to overcome by their force, the resistance which was made. Increased exercise of muscular fibres, caused them to increase in strength and growth. Here there was evident cause for the more than ordinary exercise of the muscular fibres of the bladder, and the result was a more than ordinary thickness and strength. I do not think it surpassing probability to believe, that, if the strictures had been attended to in time, and had been cured, that the morbid growth of the parietes, and the other morbid appearances of the bladder, never would have come on.

From the Medico-Chirurgical Review.

CASE OF CATALEPSY, COMBINED WITH MANIA. By Dr. BURROWS.

We remember hearing a remarkable and highly interesting case of catalepsy combined with mania, read at the Medico-Chirurgical Society, about three years ago, and wonder much that it was not published, seeing that many cases of far inferior interest have seen the light through that channel. On looking over Dr. Burrows's late work on insanity, we recognised the case, and find that the patient had been in Dr. B.'s asylum while afflicted with her distressing malady. As it involves some important etiological and pathological considerations, we shall condense its most important features in this article.

Case.—A young female, of education above her situation in life, (which was that of a housekeeper,) after being tempted to live in concubinage, had the proffer of marriage, provided the ceremony took place the very next day after the proposal. The agitation of mind, on this occasion, brought on a premature eruption of the catamenia, and in this state the marriage was solemnized, though with great reluctance.

"The new-married couple set off in the evening, to travel in a stage-coach to the place where they were to sleep. During the journey her passions were highly excited, and subsequent intercourse was attended with much pain. After having slept about an hour, she suddenly awoke in a violent alarm, saying, she had had a frightful dream, and then complained of a dreadful pain in her head. Presently she jumped out of bed and flew to the window, which her husband fortunately prevented her from opening; she then for a short time was unconscious of all around her, and fainted. On recovery, she became delirious and furious. The catamenia ceased from this time."

The medical practitioner who was called in, bled, purged, leeched, blistered, bathed, and starved the patient—and, in about three weeks, the symptoms gradually abated. A visit from her husband, at this juncture, together with indiscriminate communication with friends, produced a relapse, and mania, though in a mild form supervened. This subsequently changed to melancholia. In a fortnight after this she was removed to Dr. B.'s establishment. Her countenance was sullen and pallid; the eyes heavy, turgid, and cast downwards; the tongue foul; bowels inert; the pulse rather full and slow; the surface of the skin, and especially the extremities, below natural heat. She answered few questions, and those only in monosyllables; and she was very averse from moving. The patient was observed to make frequent pressure on her head, and the carotid arteries beat stronger than any others. The sinciput was hotter than natural, and the extremities were cold. The head was shaved—the occiput cupped—and cold lotions applied to the vertex. The bowels and stomach were cleared by purgatives and emetics. This was on the 10th November. On the 24th, some ptyalism came on from calomel that had been taken, and all the symptoms were greatly ameliorated. On the 8th December the ptyalism ceased, and all the bad symptoms speedily returned.* On the 18th December we find her assuming the cataleptic character.

"She preserves the exact posture, whether lying, sitting, or standing, in which she is placed; eats mechanically whatever is put into her mouth; if spoken to sharply, the only notice is a sardonic grin. The skin resembles white wax or marble, and is again colder than natural; feet very cold; pulse feeble; respiration undisturbed and scarcely perceptible; eyes fixed and turned upwards; alvine dejections natural; sleeps well, and when taken up in the morning, is dressed like a helpless infant."

There was little change during the next fortnight. During the cataleptic paroxysms, the carotids were observed to beat with great quickness and strength, while the pulse at the wrist was feeble and slow. This circumstance is utterly unaccountable, and nothing but the assertion of Dr. B. would induce us to believe it. If we saw the fact ourselves we would distrust the evidence of our own senses.

On the 1st January all the symptoms were suddenly aggravated. She became a perfect statue; sensation and volition were quite suspended; the evacuations were quite involuntary; there was a constant sardonic expression in her features; mouth open, and a large quantity of saliva flowed unrestrained; the eyes were immoveable, and imbedded in the upper eyelids; every limb retained the position in which it was placed; even the most painful was endured without any apparent suffering, and that for a space impossible to be preserved by any one in health. She resisted every attempt to rouse her by moderate pinching and pricking. These paroxysms, varying in intesity, lasted through the day. She now exercised but one voluntary animal function—deglutition. Various remedies, including local depletion from the head and spine, were employed, but with little effect. On the 12th February, "she arose in the morning in possession of every faculty, both corporeal and mental." She voluntarily assisted in domestic affairs, and talked rationally. She had a perfect recollection of all that passed prior to the attack of catalepsy—all since was a blank. It was mortifying to find her torpid and mute the next day. She was cupped and vomited—and a seton was inserted in the nape of the neck. At this period she removed from Dr. B.'s asylum, but he learnt that she derived very great benefit from the seton—that the menses re-appeared—that she perfectly recovered—and has since borne several children.

"Many circumstances in this case indicate determination of blood to the brain: the interruption of the menstrual flux, the discordance between the force of the carotid and radial arteries, and the temporary relief always produced by abstracting blood by cupping from the head during the existence of the cataleptic symptoms, support this inference." 191.

We believe there is not a case on record which more distinctly shows the operation of moral causes in deranging the corporeal, and through them the intellectual functions. The case is altogether very remarkable and instructive.

From the London Medical and Physical Journal.

CASE OF CATALEPSY COMBINED WITH MANIA. By Jos. Canham, M.D.

In one of the late fasciculi of the Medico-Chirurgical Review, I find detailed a curious case of catalepsy connected with mania. The only case of the disease I ever saw was likewise combined with mania. I am sorry that, from not being able to find the notes I took of the case, I cannot give you as minute an account of it as I wish.

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* We think Dr. B. might have taken a useful hint from the above accidental occurrence. We should have been inclined to keep the patient under the influence of mercury for some weeks.—*Rev.*

B. M., aged about twenty, (apprentice to his father, a bricklayer,) became deranged, and in a few days was sent to St. Luke's, where he remained a year, and was then discharged, and placed by his friends in Warburton's asylum. In a few weeks his friends took him home. Two days after his return to Stevenage (where I then resided,) he was, during dinner, suddenly attacked with catalepsy. When I saw him, which was almost immediately, he sat perfectly motionless; his eyes open and immoveable; vision apparently lost, as he would allow a finger to be placed upon the eye without closing the eyelids; insensible to sound; face and hands quite pale, having the appearance of white wax; temperature much reduced; pulse at the wrist not to be felt. Upon an attempt being made to abstract blood, to the surprise of every one present, the arm, upon being raised, retained that position after the hand which had supported it was removed. One leg was now placed at right angles with the trunk: it would not retain this position, but, upon being placed about a foot from the ground, remained there, the patient being seated upon a chair of the usual height. He was now carried to bed, having every appearance of a dead man. I could not see that he breathed, but, upon applying the hand to the chest, a slight motion of the ribs was perceptible.

A very small quantity of blood was procured from the arm, not more than an ounce, (he did not appear to feel the incision with the lancet.) A few drops of ether, with camphorated mixture, was given him, but he made no effort to swallow. Flannels were heated and applied, and frictions used, without producing any effect.

I saw him every two hours from the time I first visited him, which was about two P. M. Until twelve, he remained without any change. He was likewise seen by Mr. Jones, who was then practising at Stevenage.

Early the following morning, he was in the same state, and had remained so during the night, according to the account of his brother and those who sat up with him. At about nine o'clock, a slight perspiration appeared on the face, which increased to a most profuse sweat over the whole body, and he shortly afterwards turned in bed, and soon spoke.—The excretions of urine, &c. were suppressed during the continuance of the cataleptic symptoms.

He now became morose and melancholy, which was the state he was in prior to this attack. I saw him for some days afterwards, and he continued in this state.

About six months afterwards, I was sent for to see him: he had then, without any interference of art, regained his intellect, but was lame from the nails of the great toes having penetrated the skin on each side. When these were cured by the application of caustic, he returned to work.

It is about three years since the attack of catalepsy, and he is now perfectly well, as I heard of him very lately. His father was several times insane.

From the London Medical and Surgical Journal.

OBSERVATIONS SUR LES EFFETS THERAPEUTIQUES DE LA MORPHINE OU NARCEINE.—*Observations on the Therapeutic Effects of Morphine or Narcéine.* By V. Bally.*

Of the various poisonous substances employed by those unfortunate individuals who are prompted to put an end to their career of misery, real or imaginary, by resorting to the act of suicide, opium is the most common; it therefore behoves every medical practitioner to make himself fully acquainted with the effects of this substance on the system, as well as with the tests by which he is to discover, in doubtful cases, the nature of the poison employed. It is pleasing to witness the rapid progress which the science of medical jurisprudence is now making, but we are indebted for a great part of our knowledge of this subject to our continental brethren.

M. Séguin is supposed to be the first who gave a distinct analysis of opium. He communicated, in 1804, the result of his researches to the Institute. According to that account, opium consists, 1st, of a crystalline matter which he considered as an unknown principle (morphine); 2d, of a new acid endued with peculiar properties (meconic acid); 3d, of a bitter principle insoluble in water; 4th, of a soluble bitter principle; 5th, of acetic acid; 6th, of an amylaceous substance; 7th, of an oily substance. Little notice was taken of M. Séguin's communication at the time, nor did another memoir, by M. Sertuerner, in 1805, make any greater impression, and no further observations seem to have been made on the subject until 1816, when M. Sertuerner again called the attention of chemists and physicians to the active principle of opium, which he called morphine. Since that time several experiments have been made on animals with the different salts of morphine, as well as with the other materials contained in opium. From late researches it has been proved, at any rate rendered very probable, that the medicinal properties of this useful remedy depend chiefly on the morphine which forms a part of its composition.

M. Bally thinks it possible, in cases of poisoning with vegetable substances, to discover the kind of poison employed, by means of chemical tests. The attention of chemists has not been yet so minutely directed to the vegetable kingdom generally as to the mineral. As very slight causes sometimes tend to bring about great and lasting effects in the moral world, we may, perhaps, trace the cause of the decided preference given to mineral over vegetable chemistry to the old notion that *gold* was to be expected to result from the combination of mineral substances only. Whether the preference be attributable to the insensible influence of this old golden notion or not, the fact is certain that chemists, even to the present day, have chosen to explore the bowels of the earth rather than the vital products which spring from it. It is probable that they have been fortunate in their choice, as the results of their labours have added considerably to the comforts of life. As the healing art, however, derives much aid from the vegetable kingdom, it is to be wished that some of our countrymen would devote a little more of their attention than they have hitherto done to an examination of its chemical properties.

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* Mémoirs de l'Académie Royale de Médecine.

Having given some account of the natural history and discovery of morphine, M. Bally proceeds to examine its therapeutic properties, and the tests by which it may be known in cases of poisoning.

The substance vomited by a dog which had been made to swallow twelve grains of acetate of morphine was a colourless fluid, without odour, slightly viscid. It turned frothy by agitation with solution of gum. It was about three ounces in quantity. Submitted to evaporation in a porcelain cup, it gave a small quantity of yellowish extract, of an odour of juice of meat, of a bitter taste, a little saltish, and it reddened tournesol paper. This extract, treated with boiling alcohol, separated into two portions, the one flocculent, insoluble, formed of the mucus and of the gelatinous matter; the other, soluble in this liquid, was evaporated to dryness. The latter, re-dissolved in a little water, let fall floccules of greasy matter. Submitted to slow evaporation, the aqueous solution gave a deposit of prismatic crystals, of a yellow colour, which presented the following properties: they had a bitter taste; a solution of them in water precipitated, by the addition of ammonia, in white floccules. Treated by concentrated sulphuric acid in a small glass tube, they disengaged a decided odour of acetic acid.

Dissolved in weak nitric acid, these salts immediately gave a dark yellow solution, approaching to the colour of blood.

This union of properties proved clearly that these crystals were acetate of morphine. The quantity obtained was about three grains.

The stomach of a cat which had been poisoned by twelve grains of acetate of morphine was boiled, for ten minutes, in six ounces of distilled water. The filtered liquor was evaporated and treated with alcohol in the way already mentioned. The alcoholic solution was slightly yellow, and it furnished by evaporation an extract of a similar colour, only a little darker, of a saltish taste, followed by bitter, which manifested, by the addition of a few drops of nitric acid, a good yellow-orange colour, approaching to red; phenomena which proved the existence of a small quantity of acetate of morphine.

But it is remarkable that, in some instances, these reagents will not enable us to discover any trace of morphine in the stomach, intestines, heart, or in the blood taken from an artery a few minutes before the death of an animal which has been poisoned by this substance. A hound was poisoned by twelve grains, but no trace of it could be recognised in any of those parts. Two kittens died from the injection into the stomach of a solution of acetate of morphine, the one of five, and the other of eight grains. The stomach of that which had received the five grains showed unequivocal traces of the poison, easily distinguished by the reagency of nitric acid; whilst in the other nothing of the kind could be discovered. From these facts, and several others of a similar nature, M. Bally concludes, 1st, that it is possible, in many cases of empoisonment, to discover, by chemical means, sensible traces of vegetable poison; 2d, that it is always in the viscera to which the poison is first applied that we are to look for its presence, 3d, that the matter thrown up by vomiting shortly after the injection of the poison into the stomach contains sensible quantities of it; 4th, that all the efforts made to discover it in the blood have been fruitless.

M. Bally next speaks of the effects of morphine on the different organs, and he begins with the mouth and œsophagus. A little bitter taste in the mouth is the only effect which it produces on these parts. It occasions no thirst, redness of the tongue or gums, or swelling of the tonsils. When given in moderate doses, morphine produces no loss of appetite or any other disorder of the digestive functions; wherein it differs greatly in its effects from belladonna. In most constitutions, however, it produces vomiting, if administered in full doses. This property it appears to possess in a very high degree, which is a great obstacle to its being used as a medicine. To avoid this effect, the dose at first should be very small, and should be very gradually and cautiously increased.

The principal effect produced by morphine on the intestinal tube is constipation, hence it may be advantageously administered in cases of diarrhœa. But M. Bally has known several instances where, after producing a constipated state of the bowels at first, a continuance of the medicine has brought on an abundant discharge of fecal matter. It sometimes produces colic pains about the region of the navel, but these are generally of short duration; and they cease of themselves, even when the medicine is continued, if the dose be not regularly increased. The author has some reason to consider the medicine as a vermifuge also, and he relates cases where, under its use, worms have been discharged by vomiting. It is not improbable, however, that, if any other emetic substance had been administered in these cases, the same effect would have resulted. He has examined the intestinal canal in some instances in which morphine had been taken, but he could never discover any particular effects produced by it on the mucous membrane, probably owing to the smallness of the doses.

With respect to the urinary organs, the action of morphine is very decided on the bladder. In almost every instance it produces a difficulty of passing the urine, and this amounts sometimes to a complete retention; but the dysuria generally ceases as soon as the medicine is omitted. This property of morphine, however, only manifests itself in men: M. Bally remarks that the remedy never produces the least difficulty of passing the urine in females. This is an extraordinary physiological fact. Can it be accounted for by the circumstance of the mechanical construction of the urethra being different in the two sexes? or is it attributable to a difference in the vital functions of some of the organs? Morphine produces no sensible effects on the kidneys. The secretion of urine neither increases nor diminishes under its use; nor does the quality of the fluid become sensibly changed.

M. Bally states in positive terms that the vascular system is by no means excited by the exhibition of morphine in moderate doses. He thinks that the reason which has induced some physicians to consider the remedy as an excitant has been from observing its effects where very large doses had been administered, and where the functions of the circulating system were disturbed in common with those of all the other organs. The author relates several cases in support of his opinion respecting this point; and in conclusion he states, that if the remedy have any effect at all on the heart and arteries, it is a sedative, not an exciting, effect.

In the next place we are informed, that morphine has no tendency to produce hemorrhoids, that it has no emmenagogue properties, that it will not provoke nasal hemorrhages, nor produce hemoptysis, that it will not allay cough in a satisfactory manner, that it is not diaphoretic, that it has no influence in the production of heat, that it will not oppress respiration, that it produces no flushing of the face or symptoms of asphyxia.

The exhibition of morphine gives rise, in very many instances, to an intolerable itching of the skin. The irritation in some cases, extends all over the surface, in others it is partial, confined more particularly to the nostrils, neck, loins, and the genital organs. The itching is not uncommonly accompanied by a cutaneous eruption.

The brain and nervous system are the parts upon which morphine exerts its influence most particularly. A man, aged sixty, of a plethoric constitution, was seized, in 1809, with apoplexy, followed by hemiplegia of the left side. In about two months the power of motion began to return; but the arm continued to waste, and it became contracted at the elbow joint. In 1821 the power of motion began to diminish again, and the patient, continuing to get worse, entered the hospital in May, 1823. At this time his intellect was perfect, with the exception of a certain degree of tardiness in his mental operations. He spoke little, pronounced his words badly, and he was always disposed to lie on his left side. After a few bleedings, which produced no sensible effect, he was ordered the warm bath whilst ice was applied to the head. He had also a fourth of a grain of acetate of morphine morning and evening prescribed him. He had taken only seven doses of this medicine when there came on loss of sleep, cephalalgia, delirium, an attempt to jump out of bed, and other symptoms of cerebral excitement. The medicine was omitted, and recourse was immediately had to bleeding. By the next day all the new symptoms had disappeared, and the patient was much in the same state as before any remedies were applied. M. Bally attributed the untoward symptoms already described to the application of the ice to the head, he therefore prescribed the acetate of morphine again, in the same quantity as before. The pulse on the third day became hard, full, and frequent; the tongue dry; agitation and delirium throughout the night. After two bleedings the delirium became furious, and a total extinction of intellect took place the fifth day. Respiration was laborious; the patient lost the power of expectoration; the saliva discharged involuntarily; the face pallid; the eye-lids remained half closed; the eyes turned upwards, and the tongue dry and red. The patient died on the sixth day from the time he began to take the morphine.

The brain was very minutely examined. On raising the skull-cap no blood or serum was observed; there was not the least injection of the meningeal vessels; a considerable quantity of albuminous serum was found between the arachnoid and pia mater, although these membranes were not opaque, nor were their vessels injected. Towards the lateral and middle part of the right hemisphere, one of the convolutions of the brain appeared much depressed; it formed a cavity full of limpid serum. A great quantity of this serum surrounded the end of the medulla oblongata towards the occipital foramen. There was a sanguineous effusion in the posterior part of the left hemisphere, and this appeared recent; this part was in a state of ramollissement; the surrounding parts were in a healthy state. M. Bally exhibits this extravasation to the action of the morphine. The brain presented several other morbid appearances, but not of recent date.

M. Bally is of opinion that the delirium brought on in the above case by the exhibition of the morphine is attributable chiefly to the disease of the brain, as the medicine does not commonly produce this symptom.

Trembling and agitation of the muscular system are symptoms sometimes produced by the remedy if continued for a length of time. It has also the property of occasioning dimness of sight, which renders it an improper remedy in amaurosis. M. Bally, having never administered morphine in very large doses, cannot speak with positiveness, whether or not it have the property of occasioning dilatation of the pupils, but his opinion is, that it has not. A young man took, in a mistake, a pill containing three grains of it; in this case no dilation of the pupils took place. In cases of poisoning with opium we have witnessed the pupils contracted to the apparent size of pins' heads. The author has noticed similar effects produced by the acetate of morphine. MM. Orfila, Magendie, Dupuy, and Barthelemy state that the pupils invariably dilate in experiments with morphine on animals. Respecting this fact M. Bally observes that the iris of dogs, cats, and horses, has a mobility much greater than that of man.

Morphine appears to possess all the sedative effects of opium, and the action of both on the system is very similar. The former, however, is not liable to produce headach and the other symptoms of excitement which usually follow the exhibition of opium. The stimulating effects of opium have been generally attributed to the narcotine which enters into its composition; but some chemists are of opinion that the latter substance is nearly inert when totally deprived of morphine, and that the stimulating properties which it appears to possess when administered to animals, depend upon some portion of morphine remaining in combination with it. It is scarcely necessary to notice that a combination of these two substances may possess medicinal properties very different from those of either singly. Although pure narcotine may be inert in its effects on the system, still by its combination with morphine its latent properties will be developed, and will modify the therapeutic properties of the latter substance.

Morphine and its salts have not yet found their way into general use amongst medical men. This is rather to be regretted, as their medicinal properties are, so far as observation has hitherto proved, better adapted than those of opium for the purposes for which this is usually administered.

In the production of sleep, and in some other effects, M. Bally says that there is no proportion between the therapeutic properties of opium and its extracts, and those of morphine. Fifteen grains of crude opium contain, on an average, one grain of morphine According to this proportion, it might be expected that a given quantity of morphine would have fifteen times the effect on the system that the same quantity of opium would produce. This is, however, by no means the case. M. Bally observes that it may be admitted, as very probable, that a grain of the aqueous extract produces greater drowsiness, than a quarter of a grain of its salifiable base. This is a circumstance well worthy of attention.

In summing up his observations on the action of morphine, M. Bally divides its effects into the direct and the indirect. The former are nausea, vomiting, gastralgia, eructations, constipation, and intestinal pains; the latter are ischuria, itching, and all the cerebral symptoms. It is to be observed, however, that most of these symptoms occur only when the remedy is administered in large or frequent doses. There is one very important advantage likely to result from the employment of the active principles of vegetable substances as therapeutic agents, namely, that they may be introduced into the system through the medium of the skin, in sufficient quantities to affect the constitution. Independently of the difficulty with which we sometimes meet of persuading individuals, particularly children, to take medicines, the stomach is often so irritable as to reject every thing in the form, or under the name of medicine. M. Bally says that he has met with great success in administering the active principles of some remedies in this way, which he calls the *sub-epidermic* method. It consists in removing the epidermis by means of vesicatories and in applying the active substances to the surface of the true skin. Of two persons affected with *chiroplegia*, or paralysis of the hands, the one was cured by the action of a grain and a half of strychnine, administered according to this method daily; the other had recovered the use of one hand entirely, and very nearly the entire use of the other when M. Bally wrote his memoir. Morphine, in particular, produces wonderful effects in rheumatism, lumbar neuralgia, and sciatica, when employed according to the sub-epidermic method. It always gives ease as soon as it is brought in contact with the skin; and patients complain of great torments when its employment is discontinued for any time.

From the Edinburgh Medical and Surgical Journal.

TRAITE DES MALADIES DU CERVEAU ET DE SES MEMBRANES, &c. *Treatise on the Diseases of the Brain and its Membranes.* By A. L. J. Bayle, M.D. &c. &c. Mental Diseases. Paris, 1826.

DE LA PARALYSIE CONSIDEREE CHEZ LES ALIENES, &c. *Of Palsy in the Insane, from researches made in the service of the late M. Royer-Collard and M. Esquirol.* By L. F. Calmeil, M.D. &c. &c. Paris, 1826.

It has been very generally imagined that mental derangement might take place without any morbid state of the brain demonstrable by inspection; and some have even gone so far as to assert that it consists in a morbid train of ideas only, totally unconnected with the material condition of the brain or its membranes. In favour of these opinions, the principal arguments are of the following nature:—*First*, it is said persons after remaining some time insane have completely and often permanently recovered the use of their reason; *Secondly*, in persons who have died insane it is impossible in all instances, to find, either in the brain or its membranes, traces of morbid change adequate to account for the perversion of ideas and judgment; and, *thirdly*, though in others who have died insane, and in whose brains various marks of diseased structure were found by Morgagni, Meckel, and Greding, the same changes have been found in the brains of others who retained the perfect use of their faculties to the last. Dr. Ferriar especially may be mentioned as one who has collected a considerable number of facts illustrative of this conclusion.

Though to various authorities these arguments have appeared of variable force, yet the persuasion in favour of the opinion, that insanity is independent of the morbid state of the brain, has been very general. In proof of the truth of this proposition, it is unnecessary to go further than some of the most popular treatises on mental derangement, in which, from Arnold, Crichton, Perfect, Pinel, and Haslam, to Esquirol, O'Halloran, and Burrows, the main object of inquiry is not so much to ascertain the pathological nature of the disorder, as to trace its origin to certain remote causes, physical and moral, and to determine the proportion of cases which originate from each. Without any wish to undervalue this species of inquiry, it may be said, that, though the knowledge of remote causes is of great moment in the treatment of diseases, it is not only incomplete, but may be exceedingly injurious, unless the physician endeavours to trace the manner in which they tend to derange the functions of the animal body, or of any of its organs. Haslam, indeed, though he gives the remote causes due attention, and speaks with sufficient scepticism of the inquiry into the proximate, expresses a decided opinion that insanity is not a *disease of ideas*, and is among the first who, in modern times, has ventured to regard it as connected with disease of the brain or its membranes.[*] Dr. Marshall had previously expressed the conviction, that insanity always depends on diseases of the brain; and has left in his posthumous work some of the proofs in which this conviction was founded.[†]

It is not improbable that some of the misconception on this head may depend on inaccurate notions of the sound structure of the organ, and of the degree and nature of the deviation requisite to constitute insanity. It is not by demonstrating what is called organic lesions, that is, *distinct and obvious changes of structure*, that the pathologist is in all instances to explain a permanent state of mental aberration. A much smaller and less obvious degree of change may, under certain circumstances, be quite competent to produce effect. It is justly remarked by Cullen, that the absence of organic lesion in the instances of insane persons does not assure us that no change had taken place in the brain. (1554.) Changes in the state of the capillary system either of the cerebral membranes or of the organ itself, it may be easily shown, give rise to very considerable effects on the faculties of thought and intellect. It is an indisputable fact that in fever, in the meningeal inflammation which terminates in hydrocephalic effusion, and in that which succeeds blows and injuries of the head, the state of the meningeal or encephalo-meningeal vessels is adequate in all cases to produce more or less confusion of thought and judgment, and occasionally complete, though temporary, aberration. In the investigation of the theory of mental disorders, it is probable that too marked a distinction has been attempted to be traced between the delirium of these acute disorders and that which occurs in insanity. The difference, nevertheless, between the two forms of deranged intellect, one of which is accompanied with a general affection of the heart and circulating system, the other without, cannot be a difference in kind. In meningeal inflammation, whether dependent on fever or injury, the affection of the circulating system at large is, so far as the general principles of morbid action demonstrate, the concomitant or the effect of local disorder. We know, however, that local disorders may exist in certain circumstances without giving rise to that general commotion and conspicuous anormal action of the sanguiferous system; and it is a proper subject of consideration to inquire, whether in the insane, a degree of change in the capillary system of the brain and its membranes, not merely analogous, but quite similar to that which takes place in meningeal inflammation, may not occur independent of any marked disorder in the circulating system sufficient to constitute fever.

The appearance of the works of M. Bayle and M. Calmeil, with various papers which have lately issued from the pen of the younger Pinel, induces us to give the subject some passing attention. Whatever difficulty M. Pinel the elder may have had, in common with many other eminent physicians, in tracing the several forms of mental derangement to some material or sensible change in the brain or its membranes, this difficulty appears to have diminished greatly in the hands of his son and some subsequent inquirers. The impression appears now to be becoming general among many of those who have studied the phenomena and pathological peculiarities of mental diseases, that though a disordered train of ideas and associations is a prominent feature, this depends invariably on some morbid state either of the meningeal or of the cerebral vessels. It is not improbable that the apparent weakness or defects of this theory, which, upon the whole, is the most rational, and it may be added, the most useful in its practical influence, are to be traced chiefly to deficient or erroneous observation; and while it must be acknowledged to be unphilosophical to draw general conclusions from a few isolated facts, it is not less irrational to establish general principles while the individual facts are imperfectly observed, equivocal or contradictory. Though in the early stage of an inquiry the facts may be too few, too partial, or too uncertain to justify any general inference, in proportion as by the united efforts of many they become numerous, important, and accurate, they at length form evidence, which, if not irresistible, is at least so strong as of themselves to afford the true explanation of their previous discordance, and of the principles on which they may be eventually generalized. It is chiefly on this ground that we propose at present to take a view of the facts and circumstances which tend to confirm the general inference, that whatever be the form of deranged intellect, under whatever circumstances it takes place, and whatever agents, physical or moral, appear to operate as its exciting causes, its phenomena depend in all cases on a morbid state of the capillary system, either of the brain or of its membranes.

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[*] Observations on Madness and Melancholy, &c. by John Haslam; Chap. v. near the conclusion, p. 238, &c.

[†] The Morbid Anatomy of the Brain in Mania and Hydrophobia, &c. &c. collected from the papers of the late Andrew Marshall, M.D.

Omitting for the present the researches of Littre, Morgagni, and Meckel, which were directed chiefly to morbid states of the brain as the pathological causes of insanity, the observer finds in the elaborate descriptions of Greding the first distinct traces of full and comprehensive views of the state not only of the general contents of the cranium, but of that osseous case itself, in the persons of the maniacal and epileptico-maniacal insane. According to the researches of this accurate observer, the *pia mater* and arachnoid membrane appear almost never to have been in a state of soundness in the persons of those who laboured under symptoms of insanity. Though in a few (five) the *pia mater* is stated to have been wonderfully pale, in a greater number (nine) it was reddish and inflamed; and in a number still greater (thirty-five) its vessels were remarkably loaded with dark-coloured blood, either generally or to a greater or less extent of its surface. These appearances, however, are not free from ambiguity; since much depends on the manner in which death takes place, and on the circumstances in which the individual is placed during the last moments of existence, as to what may be the exact degree of distention of the vessels, great and small, in any tissue.

A much less equivocal trace of morbid action Greding found in the aspect of the *pia mater*, the external surface of which was very frequently white, thick, and mucous, sometimes dry and lardaceous, like the buffy coat of inflamed blood; while it was generally covered with minute hemispherical bodies, sometimes soft and spongy, sometimes hard, of the size of a mustard-seed, a grain of hemp, or a small pea. In twenty-nine cases did the *pia mater* present this white, thick, mucous appearance near the vertex, and along the longitudinal sinus. In twenty-nine it was altered in the same manner, but to a much greater extent over the membrane. In nine only, however, was it observed over the whole convex surface of the organ, and the plane surface of the commutual region of the hemispheres; and in a still smaller number (six) was it found to extend round the *cerebellum* and *medulla oblongata*. This white, thick, and mucous aspect depended doubtless, as Greding represents, partly on serous fluid effused into the delicate cellular tissue, between the arachnoid, *pia mater*, and membrane. But in other instances, when the latter was dry, opaque, and lardaceous, he appears to regard it as an albuminous exudation, the result of the inflammatory process.

The minute pisiform or lenticular eminences, which he takes particular pains to distinguish from the *glandules* of Pacchioni, both in situation and in their softer consistence and milky colour, he found in thirty-seven cases disseminated *passim* over the membrane; in twenty-seven cases more copiously and thickly crowded; and in fourteen cases accumulated most abundantly together. These bodies appear to be a product of the inflammatory process; for we have since seen them in circumstances in which the traces of chronic inflammation were distinct and unequivocal. Another appearance of the same nature, recognised by Greding in the cerebral membranes of the insane, was the occasional elevation of the arachnoid from the *pia mater* into minute bladders or sacs by serous fluid effused into the subarachnoid tissue. The subsequent observation of the same phenomena by Haslam and Marshall can leave little doubt of the fact; while its nature is established by its connexion with blood-coloured serum, injection of vessels, or actual extravasation of blood, as observed by Greding himself. The total number of cases examined by this physician was 120.*

Similar changes in the cerebral membranes were recognised by Joseph Wenzel of Mayence,† and Chiarugi of Florence. The latter especially, among fifty-nine necroscopic inspections of insane persons, found in fifty-four more or less thickening of the membranes, serous infiltration of the subarachnoid tissue, with or without injection of the capillaries, and serous fluid to greater or less amount in the ventricles.‡ It shall be afterwards shown that these appearances are the result of vascular congestion or injection.

At a later period much the same results may be seen in the necroscopic reports of Haslam and Marshall. Of thirty-seven cases of insane persons examined by the former, whatever was the state of the brain, the membranes were unsound in all except one, (the thirty-third;) and even in this there is said to have been "a considerable determination of blood to the brain;"—a sure indication that the capillaries of the *pia mater* could not have been in a healthy state. In twenty-three of these cases the *pia mater* was injected, loaded with blood, more or less inflamed, or otherwise diseased in its capillary system. In twenty-four cases the arachnoid membrane was opaque, in some instances of a milky opacity, in several thickened, and in one-half at least with infiltration into the subarachnoid cellular tissue. Of these twenty-four, thirteen belong to the first class in presenting also traces of injection or inflammation of the *pia mater.* In twenty-one cases serous fluid, varying in amount from two tea-spoonfuls to four, six, and even eight ounces, was found in the ventricles; and of these also it is to be remarked, that ten corresponded with the first class in presenting traces of meningeal inflammation, more or less intense. It is almost unnecessary to say, that the presence of this fluid in the cerebral cavities indicated previous congestion or inflammation of the choroid plexus; and though the choroid was not in all instances much or evidently affected, yet, as in several, it was vascular, thickened, vesicular, or indurated, the appearance of fluid in the cavities was as unequivocal a mark of its having been unsound, as if it had been reddened, injected, or penetrated by extravasated blood. The opacity either in spots or diffusely of the arachnoid membrane, Dr. Haslam justly regards as marks of inflammation; and the subarachnoid infiltration is doubtless to be viewed in the same light. In several of the cases the injection of the *pia mater* appears to have gone so far as to produce extravasated patches; (5, 7, 8, 14, 15, 18:) in one case in which the patient died hemiplegic, the right lateral ventricle was found distended with dark-clotted blood, which appears to have issued from the choroid plexus; and in one in which the patient fell down and expired in a moment, much blood was extravasated between the cerebral membranes, apparently from the vessels of the *pia mater.*

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* Melancholico-Maniacorum et Epilepticorum quorundam in Ptochotropheo Waldheimensi demortuorum sectiones tradit J. E. Greding, Cont. 2da Apud Ludwig Adversaria, Vol. ii. P. iii. p. 449.

† Observations sur le Cervelet et sur les diverses parties des cerveau dans les Epileptiques, par Joseph Wenzel, D. M. &c. &c. Traduit par M. Breton. A Paris, 1811.

‡ Della Pazzia, in genere e in specie con una centuria d'osservazioni. 3 vols. 8vo. In Firenze, 1794.

From these dissections Dr. Haslam expresses the opinion, that it may be inferred that madness is always connected with disease of the brain or its membranes. One objection he admits, that it may be doubtful whether the appearances noticed were the cause or the effect of the disease. However plausible this oft-repeated objection may appear, its force will gradually diminish from some considerations which we shall afterwards adduce.

The cases dissected by Dr. Marshall much about the same time, but published some years after, furnish results not dissimilar. Of twenty-two cases of insane persons, whose brains were inspected by this anatomist, in twenty-one serous fluid, varying in amount from one, two, four to twelve ounces, was found in the cerebral cavities; and in seventeen of these twenty-one cases similar effusion was found in the sub-arachnoid membrane into minute vesicles or cysts, (6, 8, 9, 18, 22.) Though the *pia mater* is said to have been injected in four cases only, and the arachnoid to have been opaque in two, it is manifest from the fluid effused into the ventricles, or between the membranes, from the vascularity of the substance of the brain, and from the facility with which the *pia mater* was detached from the convoluted surface, that the capillaries of the latter membrane were by no means in a sound state. It is further not unworthy of remark, that in nine of these cases the arteries of the brain were opaque, thickened, steatomatous or ossified,—a condition highly favourable for deranging the capillary circulation of the membranes, or the extosed organ.

These necroscopic reports are important, it must be admitted, in describing the most usual anormal appearances found in the cerebral membranes in the maniacal. By themselves, however, they are of greatly less moment than when taken in conjunction with the results obtained by other observers. It is chiefly when viewed in connexion with the researches of M. Bayle and Calmeil, that they acquire in the eyes of the pathologist that importance which justifies their reception as uniform facts, and the source of correct general principles.

The former author does not scruple to regard the disease to which he gives the name of *chronic meningitis* as the most fruitful, the most constant, and the most frequent pathological cause of mental derangement. In order to comprehend distinctly what he understands by *chronic meningitis*, it is necessary to explain that it does not designate that form of disease which may succeed the acute meningeal inflammation,—a termination which M. Bayle, in common with Montfaucon and Parent and Martinet, regards as highly problematical; but a disease totally distinct from acute arachnitis, and essentially and primarily chronic or slow in progress and duration, and seated chiefly in the minute capillaries of the *pia mater*, as they pass into the convoluted surface of the brain. We shall advert first to the anatomical characters of this disorder, as the most important and interesting point in the inquiry.

The description of the anatomical configuration, arrangement, and distribution of the *pia mater* and arachnoid given by M. Bayle, it is superfluous to repeat. It is enough to say, that it is quite the same as that which has been more than once given in the pages of this Journal, and which consists mainly in regarding the choroid plexus as an internal *pia mater* pertaining to the central surface of the organ, and receiving, like the external, its proper arachnoid membrane. The intimate connexion of the vascular-filamentous surface of this membrane with the convoluted surface of the brain, if clearly understood, cannot fail to show the anatomical physician the facility with which any derangement in its capillary system must affect the brain, and thereby influence in a very direct manner, and to a great extent, its appropriate functions.

One of the most constant anatomical characters of this chronic meningeal inflammation is injection more or less intense, and to a greater or less extent of the cellulo-vascular web of the *pia mater*. The vessels of this membrane are loaded with blood; the smallest when broken allow it to escape in abundance, and the largest are so much distended along the anfractuosities as to resemble small tense cords. The membrane itself is occasionally of a bright red or scarlet, and is so congested that blood trickles from all points on its removal, and appears to be infiltrated into its tissue. Occasionally the serous fluid lodged in its interstices may give it a pale grayish colour, disguising the redness which it would otherwise present; but its thickness and volume, which are always considerable, and the dilatation of its vessels, demonstrate that it is much injected. The serous infiltration, nevertheless, M. Bayle remarks, may be so great as to diminish or partly dissipate the vascular injection. It ought not to be forgotten that it becomes then an indication or effect of the previous injection. The arachnoid so rarely partakes in this anormal condition, that in the experience of the author it presented a reddish tint scarcely once in sixteen or twenty cases,—a circumstance which he ascribes to the disease proving fatal when most of the symptoms of inflammatory irritation have subsided.

The consequences of this injection, however, may be recognised in a large proportion of cases in the form of thickening and opacity of the arachnoid membrane both of the convoluted and of the central surface. Notwithstanding the extreme tenuity of this membrane in the sound and natural state, it may acquire, according to M. Bayle, under the influence of disease, a thickness equal to that of the *pleura*, the *pericardium*, the *dura mater*, or even of the gastric tissues, when it resembles parchment softened in water. This thickness varies in different regions of the membrane. Most considerable toward the convex centre of the hemispheres, upon their inner surface, and near the great fissure, it diminishes gradually near the base of the brain, and disappears on the lobulated region of the organ. In the arachnoid of the choroid plexus the same change takes place though to a smaller extent. But when it is remembered that this membrane is thinner than that of the convoluted surface, the morbid thickening may be equally great in proportion.

This thickening of the arachnoid, M. Bayle declines to ascribe to the deposition of false membrane on its surface, for the following reasons:—1st. He has never succeeded in splitting the cerebral arachnoid into plates, or detaching the alleged false membrane; 2d, he finds invariably false membrane upon the inner surface of the *dura mater*, and never on the outer surface of the cerebral arachnoid; and, 3d, the surface of the latter always retains its natural smooth and glistening aspect, which could not be the case if it were covered by an albuminous exudation.

With thickening the arachnoid is always more or less opaque, either continuously or in patches, which are whitish, or grayish, or of a milky aspect. The membranes are said at the same time to become denser and firmer, and to withstand laceration more powerfully. The correspondence between these changes and those remarked by Greding, but especially by Haslam and Marshall, must be so obvious as to require merely to be mentioned in order to be recognised.

One of the most usual effects of meningeal injection, though not very intense, is to induce serous infiltration either from the free surface of the arachnoid membrane, into the fine cellular tissue between that and the *pia mater*, or from the arachnoid of the choroid plexus, constituting effusion into the ventricles. In the first case it is found, as was observed in several instances by Haslam and Marshall, in the cavity of the arachnoid, that is, between the *dura mater* and *pia mater*. Most generally it trickles down as it is secreted to the base of the brain, and sometimes into the vertebral cavity, so that it appears in the form of a gush of water when the brain is removed. Its quantity varies; but in the base of the brain it is stated by M. Bayle to amount to 4, 6, 8, or more ounces. Effusion in the second situation, the sub-arachnoid cellular tissue, is scarcely wanting in a single case. It varies in quantity; and the circumstances of its effusion render the appreciation difficult. It is generally most copious at the upper convex part of the convoluted surface, at the margins of the convolutions, and along the *salci*. It always gives the arachnoid membrane the aspect of being raised by a gelatinous effusion; and when very abundant it elevates this membrane into cysts, vesicles, or bladders. This fluid is evidently discharged from the minute capillaries of the *pia mater;* and its infiltration into the meningeal cellular tissue constitutes a species of œdema. In the third situation effusion of serous fluid is also very common; and though its quantity may vary, and sometimes by incipient dissection may be totally overlooked, it is never totally wanting. If from mismanagement none be found in the ventricles, the enlargement of these cavities is a sufficient proof that they contained fluid which had been forced through the third and fourth ventricles out of its original situation. In about one-third of the cases of M. Bayle its quantity was so considerable as to constitute a chronic hydrocephalus.

Adhesions of the two folds of the arachnoid membrane are so rare that M. Bayle found them scarcely eight or ten times in one hundred instances. These adhesions are seen most commonly in the great fissure. Only once or twice were they seen in the ventricles. In one case in which the disease was complicated, M. Bayle found the two folds of the arachnoid membrane intimately united by the interposition of an albuminous or lymphy patch.

Anormal adhesion of the membranes to the brain, though not a uniform character, forms a frequent complication in consequence of superficial inflammation of the convoluted surface. It is found in at least one-half of the cases, and is known by portions of the convoluted surface coming off with the *pia mater*, to the vascular surface of which they adhere inseparably. These portions vary in extent from the size of a pin-head, a lentile, or a bean, to that of a five-franc piece, or even more. They are generally found on the convex surface of one or both hemispheres, and in a few cases only at the base of the organ. The membranes are always much thickened, and uncommonly vascular at the point of attachment.

The portions of brain subjacent to the injected or inflamed membranes are always more or less changed from their natural condition. The extent of this change varies nevertheless according to the degree of serous infiltration and of bloody injection, and according to the presence or absence of adhesions.

1st. When the *pia mater* is much injected the surface of the brain is either rose-coloured or distinctly red. Cut into slices, it is always distinctly injected, especially in the gray convoluted matter, which is also softer than in the case of cerebral inflammation.

2d. When the *pia mater* is much infiltrated, and its injection is disguised by this circumstance, the subjacent gray matter appears softer than usual, but in other respects not much changed. Its colour, instead of being rosy, is generally less gray, and is often pale; yet even in this case it may be a little injected.

3d. When the membranes adhere to the convolutions, independently of the portion of gray matter which adheres to the inner vascular surface, and which is unequivocally softened, the spot of the cerebral surface from which this is detached, and which takes the shape of a superficial ulcer, is always much softened, occasionally diffluent,—sometimes without sensible change of colour,—sometimes with injection or rose-colour, much more manifest than in other situations of the gray matter.

Under the head of *granulations* of the free surfaces of the arachnoid membrane, M. Bayle describes the same spherical or spheroidal pisiform eminences which Greding had previously noticed in the cerebral membranes of the maniacal. The present author considers them as analogous to the granular or tubercular productions found at the free surface of serous membranes in certain cases of chronic inflammation. In the outer or convoluted arachoid they were found in not more than one-tenth of the subjects, near the middle of the convexity of the hemispheres, of small size, and perceptible only by strong light. In the cerebral arachnoid he states them to be present in almost all cases. It is manifest, however, that M. Bayle confounds with these bodies a granular state of the gray and white *epithelion* of the optic eminences and striated bodies. Correct observation, we are satisfied, does not justify the inference that this smooth surface is covered with a fold of arachnoid membrane, which is confined solely to the *plexus choroides;* and the polished uniform appearance is derived from a firm condensed species of cerebral matter, which Reil not inaptly styles *leather-like* or coriaceous, and which, under certain circumstances, is liable to peculiar induration and granular growth. It gives the surface of these bodies an appearance like coarse sand-paper.

Albuminous exudations and false membrane are another effect of the inflammatory process. In the cases of M. Bayle they occurred in one-sixth of the subjects, at the inner surface of the *dura mater*, the whole extent of which they occasionally covered. In other instances they were confined to the convexity of one or both hemispheres, to the falx, or to the occipital region. But they were in no instance found at the base of the cranium only. Their external surface is attached to the arachnoid membrane of the *dura mater* with variable degrees of firmness. Their internal surface is applied, without adhesion, however, to the cerebral arachnoid. When thin they are transparent; when thicker they are whitish, grayish, or yellowish. The red, brown, or black tints remarked by the author must have been the result either of recent formation while they are still vascular, or of transudation. This is proved by the fact afterwards noticed, that in the attached surface it is often possible to trace blood-vessels, and that the black or brown patches are evidently former clots of blood partly absorbed.

Bloody extravasation in the arachnoid cavity,—an indication of hemorrhagic injection and hemorrhage from the arachnoid membrane,—M. Bayle found in about one-eighth of the cases of persons cut off by chronic meningitis. In one hundred inspections they were found only five or six times, occupying more or less extent of the arachnoid of the convoluted surface, consisting of fluid or coagulated blood, varying in amount from one-fourth of an ounce to one, or one ounce and a half. One case only (45) is given by M. Calmeil, in which much blood, fluid and coagulated, was found in the right side all down to the base of the brain. That these hemorrhages are, like those of serous membranes in general, the result of exhalation, is to be inferred from the fact particularly noticed by the author, that no trace either of rupture or erosion could be remarked on the free surface of the membrane. M. Calmeil gives two cases in which the blood was contained in a cyst formed from the arachnoid membrane. This is a species of *hæmatoma meningeum.*

In the case of patches of albuminous exudation, bloody extravasation is occasionally found at their attached surface in the form of reddish, blackish, or brown clots, varying in extent and consistence.

Of the several lesions now enumerated, some are constant, others only variable in their presence. To the former class belong opacity, grayish, whitish, or lactescent colour, and thickening of the arachnoid membrane, infiltration of the subarachnoid tissue, injection of the vessels of the *pia mater*, and more or less serous effusion into the cerebral cavities. To the latter are referred great distention of the ventricles, adhesion of the membranes to the convoluted surface, albuminous exudation, injection of the arachnoid, of the *dura mater*, and bloody extravasation.

Meningeal inflammation, farther, may be complicated with sundry morbid changes in the brain itself. Thus in seven cases various regions of the cerebral substance had undergone pulpy destruction. In one case in the centre of the hemispheres was a fibrous tumour as large as an egg, which compressed the brain all round, and in the environs of which the cerebral matter had become softened and diffluent. Another complication met with by the present author consists in acute *arachnitis*, with suppuration of the base of the brain. In like manner Greding met with pulpy softening (*apostema sui generis*) in the upper part of the right *corpus striatum*, (case 49;) laceration from blood effused in two instances, and various degrees of lesion of the *thalami* and *corpora striata;* and Dr. Haslam, in his 34th case, met with gangrene of the middle lobe of the brain, with much fetid purulent matter. Examples of this description it is easy to distinguish from the more simple affection of the cerebral envelopes.

Notwithstanding the foregoing sketch of anormal changes observed or alleged to be observed in the cerebral membranes of the insane, on various points the candid inquirer will deliberate before he is ready to grant assent to all the propositions and principles advanced in the volume now under consideration.

The first and most obvious point for inquiry is, whether the morbid changes already enumerated are the genuine causes of mental derangement,—whether they are constant in their presence and influence,—and if they be, by what means are we to explain the circumstance of their having so long escaped the observation of inquirers?

The first point can best be answered by reference to the cases of M. Bayle, all of which, doubtless, present various degrees of mental derangement. The author himself undertakes to distinguish these external effects into three stages, one of *monomania*, a second of *mania*, and a third of fatuity (*dementia.*) It is justly remarked, however, by M. Calmeil, that there is nothing fixed in this respect for all subjects. It is indeed well known that both monomania and mania terminate sooner or later in fatuity, unless the individual be cut off by some acute form of the disease, or some accidental cerebral disorder with which it is complicated. But it is by no means equally certain that monomania proceeds to mania, nor that the latter must be preceded by the former.

Be this as it may, however, in a large proportion of cases chronic meningitis gives rise to monomaniacal derangement, in which aspiring and haughty ideas perform a conspicuous part. The direction which the ambitious train of thought takes depends much upon the ordinary pursuits and professional duties. A merchant or trader fancies himself all at once possessed of the most boundless wealth, though surrounded by poverty and misfortune. An artisan fancies himself the most dexterous and ingenious of his craft. Others, who deviate from this tract, imagine themselves dignified by exalted titles and honours; that they are colonels, generals, barons, princes, or even emperors; and others, in whom it takes a different direction still, arrogate the possession of the most extraordinary natural talents, and the highest attainments in the literary and scientific professions.

In those insane on all points, or the maniacal, the character of the derangement is universal confusion of thought and reasoning. The most extravagant conceptions, the most absurd and chimerical proposals, mixed with ambitious and haughty ideas and aspirations, dogged obstinacy on certain points, and paroxysms of fury and vociferation on others, constitute the usual subjects of thought, if thought it can be called, and expression.

The third period, or rather the concluding period of both forms of insanity, is always distinguished by gradual weakening of the intellectual faculties, till they are completely obliterated. The circumstance, however, most generally characteristic of the supervention of this form of insanity, is palsy of some order of the voluntary muscles, proceeding successively to effect the greater part, till it terminates in general palsy and death. As this adjunct is one of great moment, both in relation to the pathological causes of the disorder and its probable termination, it merits more attention than it has hitherto received from those devoted to the study of mental disorders. To this, therefore, we shall afterwards return.

Admitting, therefore, what the researches of M. Bayle seem to establish, that the chronic meningeal inflammation described above is really connected with mental derangement, it remains to be inquired, whether it be a constant and invariable cause of the latter disorder, or whether derangement can exist without this or some analogous change in the cerebral organization. The determination of the former part of this question has been already in some measure anticipated by the observations made on the researches of Greding, Chiarugi, Haslam, and Marshall. So far as observation can determine a question by the collection of a number of facts tending to the same general results, it may be inferred, that in a large proportion of cases of mental derangement, the capillary circulation of the membranes is much, sometimes very remarkably disordered. Even in those instances in which the cerebral substance is affected, it appears to depend on previous meningeal disease, the morbid process of the filamentous-vascular system of the *pia mater* passing directly and easily to the gray matter of the convoluted surface, and occasionally to the white-gray matter of the central parts. When indeed it is remembered that the membranous envelope of the convoluted surface, and the vascular web of the central surface are simultaneously disordered, it is easy to see that the intermediate cerebral substance cannot be free from disease.

But if meningeal inflammation, when chronic, gives rise to confusion of thought and derangement of intellect, it may justly be inquired whether it does so when acute, and when taking place under ordinary circumstances. To determine this point it is requisite to ascertain in what states or diseases the circulation of the cerebral membranes is disordered. In continued fever, and in that form of ague which is attended with symptoms of disorder of the head (*tertiana phrenitica, siriasis Ægyptiaca, tertiana carotica, &c.*) the vessels of the *pia mater* are inordinately, sometimes very much overloaded. In the cerebral disorder which terminates in water of the brain (*hydrencephalus,*) they are also inordinately loaded and injected; and in both of these disorders we know that memory is impaired, thought is confused, and judgment more or less subverted. In the latter case, indeed, the point can only be determined in the case of adults, or at least of persons above childhood; and in more than one case of hydrencephalus occurring in persons of this description we may assert, from personal experience, that not only are the external senses disordered, but the recollection is indistinct, thought is confused, and the train of ideas is incongruous.

A proof still less equivocal may be derived from a variety of meningeal inflammation already alluded to in the course of these remarks,—that succeeding to violence inflicted on the head, (*phrenitis traumatica.*) From the cases given in the writings of Pott, Dease, Hill, and especially of Schmucker, and other army surgeons, no doubt can be entertained of the influence of this injury in producing inflammation of the cerebral membranes,—injection of the *pia mater* and choroid plexus,—and its legitimate products, serous infiltration and effusion of serous fluid into the ventricles. During the continuance of this state there can be no question that the intellectual faculties are much deranged, and that the derangement is intimately connected with the meningeal or meningo-encephalic disorder. It can be of little moment in this case to argue that the one disease is attended with febrile commotion in the sanguiferous system, while the other is without. The two conditions of the system agree in the essential circumstance, that the anatomical state of the cerebral membranes is the same.

The circumstance now mentioned is further important in affording the best explanation of the influence of certain exciting causes in the production of insanity. It has been long observed that insolation, the *coup de soleil* of hot climates, and injuries of the head, if not soon or immediately fatal, often terminate in some form of mental derangement. Of the general truth of the fact that *coup de soleil,* when not fatal, is followed by mental derangement more or less complete, and more or less lasting, no doubt can be entertained; for cases of this description are daily falling under the observation of the practitioner; and for the influence of injury of the head most of our institutions for the reception of the insane, and military and naval hospitals in general, but especially that of Chatham in particular, furnish most abundant and decisive testimony. Though in ordinary medical language these are stated as causes of insanity, this vague and confused mode of expression is employed only in accordance with the superficial observation with which cause and effect are often connected in medical reasoning. They are causes of meningeal and meningo-encephalic inflammation, which is the pathological state giving rise to the deranged intellect. These causes, it is well known, are adequate to induce a change always in the organization of the cerebral membranes, sometimes in the brain itself; and in proportion as this change is trifling or considerable, the derangement is also variable in degree. If it subside spontaneously, or is controlled by judicious measures, the derangement also recedes; but if the morbid process of the membranes is either aggravated or remains the same, the maniacal or monomaniacal state becomes more intense and inveterate, till it eventually terminates in confirmed fatuity.

Similar considerations may be justly applied to other agents referred to the order of exciting causes, and to none more readily than the habitual and temperate use of intoxicating liquors. However the fact is to be explained physiologically, no doubt can be entertained of the influence which these substances possess in inducing accumulation within the vessels of the brain and its membranes. This is demonstrated both by their temporary administration and by their habitual employment,—a frequent effect of which is to induce manifest congestion of the meningeal vessels.*

It must not, nevertheless, be imagined that the traces of this meningeal disorder are always very distinct. The injection alone is essential; the effusion and infiltration, the opacity and thickening of the membranes, which are mere effects, may or may not be present, according to the duration of the disease. In recent cases it may be so slight as to escape notice. In those of more lengthened duration, it may have subsided and given place to its effects. These considerations must be kept in view in the inquiry into the influence of any anormal state of the meningeal vessels in producing mental derangement.

Upon the question whether derangement could take place with a perfect normal state of the cerebral membranes, it is not difficult to come to a conclusion. Amidst so much positive evidence, one or two, or even several cases, in which they seemed to be sound and in their normal condition, would scarcely be adequate to prove the negative. The reason of this must be obvious to any one familiar with the rules of evidence in medical inquiries. In pathological researches it is by no means an easy task at all times to fix the standard of healthy or normal organization; and the vague language in which necroscopic reports are too often expressed, leaves a wide chasm for many fallacies. What may be healthy in relation to the tissues of one subject may be morbid in reference to those of another; and a very inconsiderable deviation from the healthy standard may produce in different individuals different effects. Even in cases in which no morbid deviation is stated to have been recognised, it is not improbable that this has arisen from the circumstance, that the exact limits of sound and morbid organization were not exactly defined. It is not, as has been formerly hinted, always necessary to look for *change of structure*, or, in other words, for the *products of morbid action.* The morbid process itself, which consists in *change of organization* only, that is, some deviation in the circulating system, is, in all cases, sufficient to induce change of function. To this, therefore, the pathologist must direct all his attention in studying to fix the characters of anormal action. These considerations show how easy it is for slight degrees of change to escape notice, and how necessary it is for physicians in subsequent researches to examine, with the closest scrutiny, the state of the cerebral membranes in those who have lived and died insane.

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* See dissections of cases of *delirium tremens* in the writings of Frank, Speranza, Black, and others.

The subject of remote causes, and more especially the manner in which they are connected with the proximate or pathological cause, constitutes an important but arduous inquiry; and all that can be attempted here shall be confined to a few brief remarks.

Under the head of *sex*, it appears that among 182 patients at Charenton, 158 were men and only twenty-four were females,—a difference which M. Bayle ascribes to the influence of great moral commotions, excess in drinking, wounds of the head, &c. to which the one sex is much more exposed than the other. Though all ages are subject to chronic meningeal inflammation, yet, according to the tables in the present volume, it is most frequent between the ages of 35 and 45, the numbers being greatest between these periods, (one-third of the whole;) less so from 45 to 50, nearly of the same degree of frequency between 30 and 35, and 50 and 60, after which it appears to become much less frequent. From this view M. Bayle infers that insanity is a disease of the tempestuous season of life, when hope is still unbroken, when passions are strong, and when pleasure, luxury, ambition, and avarice, alternately take possession of the heart.

Under the head of *profession*, it is a circumstance deserving attention, that the military life has furnished a large proportion of the residents of Charenton. Among 134 persons who had been trained to the various occupations pursued by the male sex, forty-eight belonged to the military profession, twenty-five had been occupied in offices of the public administration, twenty-five had been engaged in commerce, eighteen in different trades, eight in the fine arts, and only six in offices connected with the profession of the law. It would have thrown some light on the nature of this disease if as much of the history of each of these cases had been furnished as to show, whether the military life possesses, beyond exposure to accidental injuries and intemperate or irregular habits, any thing capable of favouring the formation of the disorder. It appears that ten cases only were traced directly to the fatigues of the military life, and the same number to blows, falls, or wounds on the head; but it is not said whether the latter occurred among the military or the civil maniacs. A similar defect may be noticed in the head of *excess in drinking*, to which thirty-one cases are ascribed, but without stating whether they occurred in the persons of the military or the civil. A mode rather peculiar of explaining the prevalence of insanity among the former is to ascribe it to the sudden transition from a state of warfare and tumult to that of peace and tranquillity. Though the former is doubtless a condition of fatigue, privation, and penury, and the latter may be, as M. Bayle supposes, one of abundance, yet it is well known that war is equally often the season of indulgence, excess, and irregularity; while peace, if one *d'une nourriture abondante*, is also a season of idleness, inactivity, and ennui, prolific causes of mental aberration. It is unfortunate that the author gives equally few data to trace the connexion between the remote and proximate causes in this case.

Under the head of *pathological predisposing causes*, however, the reader finds more distinct matter for reflection. In eighteen cases the disease supervened on suppressing habitual hemorrhoidal discharge, in two the interruption of a habitual blood-letting, in four the suppression of cutaneous eruptions, in seven cases chronic rheumatism, and in three frequent attacks of gout and erysipelas. In fifteen cases the disease was connected with hypertrophy of the left ventricle, in eight with headach of longer or shorter duration, and in three with nervous attacks. In such circumstances, little doubt can be entertained of the connexion between the apparent exciting cause and the morbid state of the brain or its bembranes, or both.

Of moral causes, the most frequent are the gloomy passions, as disappointment, envy, vexation, or disgust. Thus the military adventurer, whose ambitious hopes of riches and elevated rank were dashed by the concluding events of the war, becomes the victim of a deep and settled gloom, which eventually, by fixing on the brain, unhinged his reason. Those engaged in mercantile pursuits suffered from unsuccessful speculations, from failures and the contingent losses. And many, it appears, by losing situations, on which the hopes of their families depended, became dejected and desponding, till, by frequent brooding over their calamities, their faculties became disordered, and their reason impaired.

All these remote causes concur, according to M. Bayle, in producing in the cerebral membranes an irritation, of which the prominent feature is congestion or accumulation of blood in the capillaries; "une fluxion sanguine vers la tete, dans les vaisseaux du cerveau, mais surtout de la pie-mere." This congestion he represents as existing in all cases, and as invariably preceding the attack of chronic inflammation of the meninges, of which it is to be considered, he says, as the proximate or direct cause. In this stage it gave rise to pain or weight of the head, and more or less disorder of the sensations. In one-half nearly of the cases the rapidity and violence of the attack gave rise to a distinct apoplectic fit, varying in duration for a few minutes to several hours; and in the course of a few days or weeks after mental derangement became manifest. In the other half of the cases the approach of the insane symptoms was different. In some instances habitual somnolence, weight of the head, and redness of the face and eyes, were the first symptoms of the congestive stage; in others giddiness, loss of recollection, and transitory confusion of thought, occasionally with indistinct or thick articulation, were its effects; and in others again, stammering or incapacity to articulate certain words, with inability to walk in a straight line, or maintain the equilibrium, were the indications of its commencement.

Of the mode in which the remote causes operate in producing this irritative congestion, M. Bayle no where gives any information; and the reader is left to take his authority for it, without being instructed why the remote causes should produce the effect alleged. That some of them, as mechanical violence, habitual intoxication, and *coup de soleil,* should give rise to such disorder of the meningeal capillaries, is not difficult to see. But it is much more difficult to understand how a moral affection should induce this material change in the animal tissues; and of no moral affection is it more difficult to understand this, than of those which are said to give rise to religious monomania. Without wishing to impair the veracity or authenticity of the descriptions of M. Bayle, we are inclined to think that what is believed to be the cause is very often the first overt effect of insanity.

A man, for example, of most sanguine and ambitious hopes, forms some absurd and chimerical design, which no person of sober thought or chastened judgment would indulge for a moment· If he succeeds either partially or generally, he is one of the few who succeed in such undertakings. But if he fail, which is the most likely result, the disappointment of his hopes is so great, that, instead of attempting to repair his error as a well regulated mind would do, he broods over what he conceives to be his misfortune, or he allows himself to be worked into a fit of peevishness and discontent, till he commits some extravagant act which no longer permits his derangement to be questioned. In such a case as this, however, which is by no means uncommon, disappointment is not the cause of insanity. The individual was previously insane, and committed his first mistake under the monomaniacal delusion; but it was only when he committed the overt act that it attracted notice. The course now mentioned is very much the case with what is termed *religious* insanity. The victims of this variety of *monomania* are in general ignorant and weak to an extreme; incapable of any exercise of their own reason, of which indeed they have but a small share; credulous, and ready to become the prey of any unprincipled person a little more shrewd than themselves. They are, in short, originally persons of weak intellects; and this weakness depends in all probability on original or hereditary conformation. Of such insanity religion cannot be said to be the cause. But the original susceptibility, or what Mr. Hunter would have termed the *disposition* to meningeal disease already existing, leads them to think, and of course to think very erroneously, on a topic in which all are much interested. Reason and judgment, in such circumstances, have no share in the business. Imagination, unrestrained and extravagant, is the sole agent. The longer they think on a subject much too difficult for the small portion of reason which they possess, the more confused they become; and when to this are added the terrors which injudicious advisers too often neglect not to strike into their disordered breasts, the result is not wonderful. In this case, however, insanity also pre-exists, and, in truth, is the cause of the erroneous train of thinking. In such individuals the disposition to the unsound state of the cerebral membranes forms part of the original structure. Passions, emotions, and other moral circumstances, in all such cases, though apparently causes, are really effects; for in a mind originally sound no such inordinate emotions are allowed to exist or operate.

The last subject to which we shall advert in these observations is one of much moment in settling the question regarding the material cause of mental derangement. The combination to a greater or less extent with palsy, a disorder always, so far as is hitherto known, dependent on some material change in the brain or its membranes, cannot fail to afford a strong proof of the material nature of the former disease.

The connexion between palsy and insanity, though rather overlooked by authors, has nevertheless been observed. But the fact of the connexion, though established, has not been properly or diligently applied. "Paralytic affections," says Haslam, "are a much more frequent cause of insanity than has been commonly supposed; and they are also a very common effect of madness. More maniacs die of hemiplegia and apoplexy than from any other disease."* Here is stated a fact of the utmost importance, but so mystified, we regret to say, that its proper application is wholly overlooked. Paralytic affections cannot be said to be a cause of insanity, any more than insanity can be said to be a cause of palsy. The explanation may be understood from the concluding statement, that "more maniacs die," not so much of "apoplexy and palsy," as of that state of the brain which induces at once mental derangement, loss of power, and finally loss of sensation, than of any other morbid state. By looking solely to the pathological cause of disease, much confusion both of thought and expression is prevented.

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* Observations on Madness and Melancholy, &c. ch. vi. p. 259. 2d edition. London, 1809.

In all the institutions for the reception of the insane we find a number more or less considerable of persons who labour under various disorders of the muscles of voluntary motion. Some speak thick, articulate with difficulty, or actually stammer in attempting to express their thoughts; some totter or stagger as they walk, or require some support; others have involuntary contractions in an arm or leg; others have convulsive or tonic spasms; several are hemiplegic or paraplegic; and not a few, after passing through one or more of these forms of impaired motion, are entirely deprived of the use of their extremities. All these varieties of impaired motion have been collected under the general name of palsy,—an epithet improper certainly, both nosologically and pathologically, but which perhaps it would be inconvenient to reject entirely.

It is not easy to say whether this palsy should be regarded as invariably or only accidentally connected with mental derangement. By M. Bayle, who believes it to be necessarily connected, it is represented as one of the usual symptoms of the last stage of chronic meningeal inflammation,—as the point to which, along with fatuity or *dementia*, mania necessarily tends. M. Calmeil, on the contrary, who denies indeed several of the doctrines of M. Bayle, for whom he seems to have no great respect, says that this representation is quite hypothetical, and states it to be the result of many notes intentionally taken on the subject, that palsy commences sometimes after mental derangement, sometimes at the same period, and that it rarely precedes that disorder.

1st. In some instances mental derangement proceeds to the chronic state, and continues from fifteen to twenty years without the patients betraying the smallest degree of feebleness in their lower extremities, or the slightest embarrassment in speech. The same individuals, nevertheless, may present at a later period all the signs of general palsy. Intelligence appears to be entirely obliterated; speech is unintelligible; progression becomes unsteady; and as these symptoms are aggravated, the moment of death, which previously appeared to be distant, approaches with rapid strides. This statement, though given by M. Calmeil, doubtless corresponds with the view given by M. Bayle. At Charenton, it appears, palsy takes place shortly after mental derangement.

2d. In other instances palsy comes on simultaneously with the mental disorder. It appears that at Charenton there are daily admitted patients who exhibit much disorder of locomotion, which is not stated in the certificate of the physician to whose care the patient was first committed. Upon examination it often results that the speech was thick, or the motion of the limbs irregular, as soon as the first symptoms of deranged intellect appeared.

3d. Though more difficult to find cases in which paralytic disorder preceded the mental, this nevertheless has been observed. Under the care of M. Esquirol, was a patient struck with general palsy, who for several months retained all the vigour of intelligence, and still continued to perform an important part in business. Eventually, however, he became maniacal.

Palsy in the insane is distinguished by peculiar characters. At first the motions of the tongue are constrained; the efforts to speak are unavailing; articulation is impossible; and the individual struggles and stammers like a person intoxicated to express his desires. As this becomes more intense, he is observed to totter, stagger, or reel in walking, and is aware that he cannot direct the muscles of his limbs to move as he wills them. The derangement at this time is generally verging rapidly to fatuity. At a more advanced period, not only is speech obliterated or converted into inarticulate muttering, but the patient is unable to maintain himself erect, and whenever he wills to make any motion, he finds that neither arms nor legs are obedient to his desires. It impairs, in short, but does not annihilate, the motions of *all* the voluntary muscles. It is a *general* but *incomplete* loss of power.

With the palsy is generally associated more or less affection of the senses, which, however, are not obliterated. The paralytic madman distinguishes light from darkness, he hears a loud sound made at his ears, and he is sensible of pungent odours. But if the skin be touched with two bodies, the one hot and the other cold, he does not distinguish the difference. General sensation and taste are equally obtuse. In this state death is generally not remote. The duration of the affection varies according to the slowness or rapidity of the disorder in the brain, on which the palsy depends. Some paralytic maniacs live eight months, a year, eighteen months, and others even continue two or three years, but rarely more. The average duration of life after the commencement of paralytic symptoms is about thirteen months.

The fatal termination, however, is not always inevitable. M. Calmeil mentions examples of paralytic maniacs, who, after manifesting the usual signs of a disease known to be certainly fatal, have unexpectedly recovered a degree of strength, and been able to walk several hours daily. These alternations depend apparently on the cerebral affection stopping after it reaches a certain point.

The comparative frequency of palsy in the insane is a point of great moment in the determination of the question of the anatomical characters of insanity. The pathologist is naturally led to the question, whether palsy occurs in all the insane as a necessary concomitant or effect of the morbid process, which is supposed to give rise to mental derangement, or is confined only to a certain description of cases. On these points we find no certain elements in the writings of the present authors. M. Bayle, though he admits that the third stage, or that of fatuity, (*dementia,*) is not always the consequence of the second, (*mania,*) and may follow immediately the monomaniacal stage, (p. 504,) represents palsy more or less complete to be an invariable adjunct of the stage of *dementia.* According to this author, every case of insanity, that is, every case of chronic meningeal inflammation, if it does not sooner, and in a more acute manner extinguish life, terminates naturally in palsy more or less complete of all the voluntary muscles, and eventually affects those subservient to involuntary motion. The duration of the entire disease then varies from two months to six, eight, ten, or even twelve years; while that of the fatuous paralytic period varies from three, six, or eight months, to that of two or three years; a statement not materially different from that of M. Calmeil.

The latter author, on the other hand, satisfies himself with saying simply, in general terms, that palsies are *very frequent* in the insane. He remarks, however, that, since *general incomplete* palsy is rather rare in females, there ought to be fewer in an equal number of subjects in the wards of the Salpetrière, inhabited exclusively by women, than of those of Charenton, in which patients of both sexes are confined. In Bicétre, on the contrary, which is devoted to men only, general palsy, he remarks, ought to be a very frequent disorder; and the total amount of cases ought to be much greater than in the other two establishments. These, however, are conjectural results; and we do not perceive that either author has been at the pains to verify them. We are therefore left somewhat in the dark as to the main point of inquiry, whether insanity with palsy is really a different disease, or merely an advanced stage of the same disease, as insanity without palsy.

In the heads of persons cut off by this disease a great variety of morbid changes are found. In some the cranial bones are affected; in many the membranes are diseased or changed in structure; in not a few the cerebral substance is the seat of various morbid changes; and in some new growths or formations are developed. After an elaborate and careful examination of these changes, of the circumstances with which they are connected, and of their comparative influence, M. Calmeil comes to the conclusion, that, as none of them are constant, none are essential; and that to explain the phenomena of the disease, it is necessary to look for some morbid state, which, as a common point of agreement among all, may be present in all cases, and therefore adequate to explain the phenomena of all. This, he imagines, is found in a chronic inflammatory process, which exercises its principal ravages at the surface of the convolutions, in the gray matter, and in the membranous coverings of the organ. This chronic inflammation, he conceives, gives rise to palsy, by inducing in the brain a change of organization *identical* or common to the whole of the cases examined necroscopically, and which must have existed independently of the lesions recognised. He justly remarks, that the circumstance of the brain of a person cut off by general palsy presenting no appreciable trace of such inflammation would not be positive proof that it did not exist; since after continuing for some time it might have subsided, leaving a morbid change, which, though not a direct cause of the paralytic disorder, was an effect of the cause from which that resulted.

Although M. Calmeil disclaims all accordance with the principles of M. Bayle, the views now stated as issuing from the former are much less different from the doctrines maintained by the latter than at first sight appears. It is of little moment whether insanity be ascribed to a phlegmasia of the cerebral membranes or of the convoluted surface. The difference is more in name than in reality. It is also of little moment whether it be the fact, that insanity passes through the three progressive stages of *monomania, mania,* and *dementia.* It is certain that *dementia* is generally preceded by simple deranged intellect; it is almost certain that both depend on material morbid conditions of the brain or of its membranes; and it is quite certain that when combined with palsy, insanity always depends upon some morbid state of the brain, or of its membranes, or of both, which tends, with variable degrees of rapidity, to the extinction of life.

On one more topic a few words in the way of cumulative evidence may be added. The connexion between mental derangement and convulsive motions of the voluntary muscles has been long and repeatedly remarked; nor has the transition of epilepsy into mania and fatuity escaped notice. Little doubt can be entertained that epilepsy, if long continued, is connected with material disorder in the organization of the brain; and if any one be sceptical as to the pathological origin of that disease when combined with mania or fatuity, the dissections of Greding, already so often quoted, may suffice to convince him. It is pleasing to find this connexion illustrated by the researches of M. Bayle, who found convulsive phenomena of various forms and degrees in one-fourth of his cases. These phenomena consist of spasmodic agitation, continued or periodical; tremulous motions of the muscles; involuntary grinding and gnashing of the teeth; convulsions of several members or of the whole person; involuntary rigid contractions of the muscles of the extremities; local or general tetanic motions; and convulsive, epileptiform, or distinct epileptic attacks. These irregularities in the muscles of voluntary motion take place during the course of the first and second periods of the disease, and may be continued to the third. In other instances they appear in the third only; but in both cases they continue till the fatal termination.

The facts now stated, when properly understood, afford the explanation of the assertion often advanced in practical works, that epilepsy is one of the causes of insanity. To this erroneous representation the same remarks which were already mentioned in reference to palsy are applicable. Epilepsy and insanity are merely connate effects, simultaneous symptoms of the same morbid change going on in the brain or its membranes; and as both are the result of the same common cause, neither can be justly said to be the cause of the other. This inference, we conceive, will derive stronger confirmation from every case which is necroscopically examined with the necessary attention.

The views now delivered suggest important hints for the treatment of mental disorders. Upon this part of the subject, however, it is impossible at present to enter. For this, therefore, as for several other topics, we must refer our readers to the works themselves. It is not meant to represent these works as affording perfect or satisfactory explanations of all the complex and discordant circumstances in the pathology of insanity. They, however, contain a large proportion of valuable information, from which future observers may derive the utmost advantage in their researches on this disease. In this respect they well deserve the sedulous examination of those who would understand the nature of the several forms of mental derangement.

From the Lancet.

ON THE CONDITION OF THE BLOOD AND THE VESSELS IN INFLAMMATION.*

The numerous experiments of Haller, and Spallanzani, and the more recent ones of Doellinger, Thomson, and Hastings, might seem to have completely exhausted the information to be derived from the use of the microscope, with regard to the phenomena of inflammation; it appears, however, from Dr. Kaltenbrenner's most elaborate work, that this is by no means the case; his observations, in some respects only, confirm those of his predecessors; but in others evidently lead to contrary results.

Our author has chosen for his observations the organs of animals of three different classes: the tail of the cobitis fossilis, the web of the frog's foot, the lungs of the frog and salamander, the mesentery and liver of the frog, the mesentery, liver, and mucous intestinal membrane of the rat and rabbit, and the spleen of the mouse. The means by which inflammation was excited in these organs, were also very various; incision, contusion, and puncture; laceration, pressure, burning, cold, and heat; exposure of the intestines to air, water, and different gases; hunger and poisons; especially sublimate, ammonia, alcohol, opium, and the muriates of soda and ammonia, were successfully employed for this purpose. The action of these different means on the living body, produced infinite modifications in the circulation of the blood, and in the vessels; all which, considered under a certain point of view, the author is led to regard as being founded on one and the same organic process.

After death, the arteries are found empty, the blood having entirely passed into the veins; this phenomenon was well known to Haller, and he observed it very accurately in the mesentery of the frog. The successive changes which, by means of the microscope, are seen in an organ at the moment of its being deprived of life, are the following: on the approach of death, the column of blood in the arteries gradually diminishes in size, till, at last, the vessels contain only half of the usual quantity; the stream is uninterrupted, rapid, and without any visible pulsations, which, however, may be observed after some time, corresponding with those of the heart, and gradually becoming more and more distinct; at last, however, they become unequal and indistinct, and, at the same time, the column of blood decreases, till it disappears entirely; the arteries are now quite empty, and organic life is extinct. Whilst the arterial stream is uninterrupted, no disturbance is observed in the veins; but as soon as the arterial circulation becomes unequal and irregular, the blood is accumulated in the veins; and from the moment that no more blood is carried into them, that which they contain stagnates entirely, retaining however, for some time, an undulatory motion, passing into the branches, and then returning again; these undulations gradually diminish, and become reduced to smaller limits; the globules of the blood are conglomerated, all spontaneous motion ceases, and the mechanical laws determine its further direction. This undulation of the venous blood is observed not only in dying animals, but also in parts divided from the living body, and in those which, by a very tight ligature, have been separated from the system. In these cases, the arteries are emptied as soon as they receive no more blood; the fluid of the capillary vessels, from this moment, is thrown into undulations, which press the blood towards the veins, and, lastly, terminates in complete stagnation. This fact is a decisive proof, that the motion of the blood in the smaller arteries, and especially in the capillary system and veins, is, in some degree, independent of the action of the heart.

It is a general opinion, that after death the blood is equally distributed to all the organs of the body, unless any of them had been the seat of inflammation; this is not the case: in the extremities, the serous membranes, the lungs, &c., the blood retires from the capillary system into the larger veins; in other organs, as, for instance, in the spleen and liver, the capillary vessels do not completely empty themselves. It is very interesting to observe that in fishes, the blood of the smaller vessels is not emptied into the veins, but that from the moment when the circulation is arrested, it is infiltrated into the cellular tissue, where it is found in reddish masses; a fact, which can only be accounted for, by assuming that these small vessels are canals without proper parietes. In the liver of the frog, the same appears to take place, but not in that of the rabbit, which, after death, is found most beautifully injected.

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* Experimenta circa statum sanguinis et vasorum in inflammatione, aort. J. Kaltenbrenner, M.D., and Magendie's Journal.

M. Kaltenbrenner endeavoured to distinguish the red and white substance, which some anatomists say they have discovered in the structure of the liver; but having never succeeded, he doubts the existence of these two substances, and accounts for the error of these anatomists in the following manner: the small acini which compose the substance of the liver are surrounded by a net-work of veins, in which the blood stagnates after death; when seen by the naked eye, the circumference of the acini appears of a red, and their centre of a light colour; but under the microscope, this centre is found to consist of a very dense vascular net-work, from which the veins of the circumference arise; according to the greater or smaller quantity of blood accumulated in the liver, the centre of the acini appears of a pale red, or dark-red colour.

In the spleen, the small vessels undergo a very singular change at the moment of death. During life, the distribution of the vessels in this organ is very similar to that in the substance of the liver; after death, the same phenomenon takes place as in the capillary system of fishes; the smaller arteries and veins, and the capillary vessels, emit their blood into the cellular tissue, where it is found in red masses; the larger arteries and veins only retain their blood, of which, in the smaller vessels, no trace can be discovered; this accounts for the general opinion that, in the spleen, the arterial blood is poured into cells, from which it is taken up by the veins; at the same time, it explains why all attempts to inject the arteries of the spleen from the veins have failed. Whoever has examined the edges of the spleen of the mouse under a microscope, will be convinced that after death the blood of the capillary system is infiltrated into the parenchymatous tissue, but he will never, during life, observe its emission into cells.

On examining, after death, the mucous membrane of the small intestines, it appears, even to the naked eye, that a small portion of the blood is retained in the capillary vessels, the rest being carried into the larger veins.

The changes which the circulation of inflamed parts undergoes after death, is very different from those observable in healthy organs. The blood is conveyed from all parts with accelerated motion, towards the centre of inflammation; the arterial is not changed into venous blood, and its coagulatory power is much increased. If in this state death takes place, the column of blood in the surrounding vessels diminishes in size, and the blood accumulates in the inflamed part, so that at last the peripheric vessels are perfectly emptied; at this moment the circulation ceases, but for a considerable time afterwards undulations are visible, by which the blood is gradually carried towards the centre of inflammation, and which insensibly terminate in stagnation. This motion, subsequent to the death of the animal, is also observed in the newly-formed vessels. In a lesser degree of inflammation, the blood is only accelerated in its motion, and does not approach to a complete stasis; the centripetal undulations are also visible, but ultimately the blood is carried into the veins. In such cases the inflamed parts exhibit hardly any redness after death.

It appears, that in some organs, inflammation is more disposed to form the inflammatory centres described above, than in others; in the latter division, to which the serous membranes seem especially to belong, exudation is most frequently observed. If cold water is injected into the peritoneal cavity, inflammation is soon excited, and quickly followed by exudation; the afflux of blood is so violent, as to make the membrane appear like a net-work of injected vessels; from the moment that life ceases, the blood gradually leaves them, and is completely poured into the veins, so that, after death, but very slight traces of the preceding inflammation can be perceived.

The abdomen of an animal being opened, or its intestines and mesentery being drawn out, the contact of atmospheric air soon causes inflammation, which increases very rapidly in the mesentery, but slowly in the intestines. When, however, it has arrived at a certain pitch in the latter, it suddenly diminishes in the former, and gradually subsides, till at last its vessels are emptied, and the inflammation is confined to the intestines alone. The same phenomenon takes place if the mesentery is first irritated, and the intestine is afterwards exposed to any exciting cause. It seems, then, that inflammation is much more readily excited in the serous membranes, than in the organs which they envelop, but that it subsides very rapidly, and in the same proportion, as it increases in the intestines. The tissue of the lungs appears also to be little disposed to form inflammatory centres, while in the liver the contrary obtains. The circulation of the latter organ is, even in the state of health, very slow and favourable to considerable accumulation of blood; in inflammation, it is first accelerated, but gradually retarded, and, lastly, a complete stagnation takes place. The same is observed in inflammation of the spleen.

Violent inflammation of the mucous intestinal membrane, often leaves no traces whatever; the blood with which, during life, the capillary vessels were gorged, is, after death, so completely conveyed in the veins, as to render this membrane almost as pale as in its healthy state; this is even most striking in the most acute inflammation, so that in this respect, the mucous are apparently very similar to the serous membranes.

We need hardly observe, that these observations ought to make us very cautious in determining by post-mortem examinations, whether any of these organs have, during life, been the seat of inflammation.

When the capillary vessels are wounded, scarcely any extravasaton appears to take place, only a few globules escape, and the circulation through the wounded vessels is not at all disturbed, but continues as before. If very small arteries are divided, the hemorrhage is also very trifling; but the blood ceases to circulate through the wounded vessels, and passes entirely into the arterial branch next above the division. When a larger artery is divided, a considerable hemorrhage ensues from the two ends, and the blood of the neighbouring arteries is seen moving towards the wound as towards a centre; after some time, an undulatory motion is observed in the ends of the arteries, so that at one moment the blood moves towards the point of division, and, in the next, returns into the vessel; these undulations gradually decrease, till the movement of the blood towards the divided extremities ceases entirely, the blood being carried through the next arterial branches.

We strongly recommend to our readers an attentive perusal of Dr. Kaltenbrenner's work, and seriously regret, that want of space prevents our giving more than a very imperfect abridgment of it.

From the Archives Generales de Medecine.

OBSERVATIONS CHIRURGICALES SUR LA RESECTION DES COTES. Par L. Cittadini.*

Among the new and apparently formidable operations with which surgery has been enriched in modern times, there are few which excited so much interest when proposed, and subsequently experienced so much neglect, as excision of the ribs. This operation was first performed in January 1813, by the author of this memoir, who read an account of it to the *Academia del Petrarca d'Arezzo*. In 1818 it was unsuccessfully performed by M. Richerand, to whom the credit of originating it has been unjustly attributed. Finally, in 1820, the case of M. Cittadini was published in the *Journal Complementaire, &c.* The memoir now under consideration is made up of this case, and of four others, in which the operation was followed by complete success.

Case I. This case, detailed in the journal above mentioned, is that of a female who had long laboured under fistulous ulcers in the left mamma, the consequence of a badly treated abscess; they had been repeatedly laid open, and caustic applied, but without advantage. Upon examination, M. Cittadini ascertained that a portion of the sternum and the cartilages of the sixth and seventh ribs were denuded; an incision was made upon them, and the sternum was found carious to the extent of more than an inch; the two cartilages, for the space of about three inches, were swelled, and perforated in several places. The actual cautery, which was applied with the view of determining the exfoliation of the bone, had no other effect than that of exciting a violent inflammation of the pleura. Six months afterwards, suppuration had made its way into the cavity of this membrane, the patient was tormented by constant pain, great difficulty in respiration, and was moreover much emaciated. In this extremity M. C. resolved to remove all the diseased parts, and with this view having cut away the cicatrix and exposed the bones, he found between the sixth and seventh rib, an opening communicating with the cavity of the thorax; he divided the intercostal muscles, tied the intercostal arteries with the aid of a blunt-pointed curved needle, and cut through the diseased ribs within the ligature. He then applied a large trephine upon the affected portion of the sternum, and finally detached the isolated parts from the pleura by means of a spatula. The proximity of the internal mammary artery, prevented him from removing this membrane also, although it had undergone great alteration. The operation was long, and the admission of air into the cavity of the pleura, induced the fear of suffocation; but the wound was promptly covered with pledgets of lint spread with cerate, and the whole retained by means of an elastic bandage. Recourse was had to stimulants, frictions, and the insufflation of air into the lungs, to resuscitate the almost expiring patient. For the space of two months she experienced great difficulty in respiration, but as soon as the wound cicatrized, all the unpleasant symptoms disappeared, and she was restored to perfect health.

Case II. A man had had for some time a fungous tumour situated upon the cartilages of the sixth, seventh, and eighth ribs, about an inch from the ziphoid cartilage. Both the knife and actual cautery had been repeatedly employed for its removal, but without success. M. Cittadini, believing that the disease originated in the ribs, resolved to remove them. He made an incision around the tumour, and dissected up the integuments in a space about three inches in diameter; some fibres of the rectus and external oblique muscle were then detached, and the cartilaginous portion of the ribs exposed. The disease was now ascertained to be limited to an extent of about two inches. By means of a strong probe-pointed bistoury the cartilages were divided, and upon elevating the diseased portion with a spatula, it was found to be strongly adherent to a fungous mass beneath, the rupture of which gave rise to a copious hemorrhage; this was arrested by the aid of the actual cautery, and cicatrization, though it advanced slowly, was complete at the expiration of three months. During all this while no unpleasant symptom supervened, and up to the present time, the patient continues in perfect health.

Case III. A young man of a vivid imagination, sanguineous temperament, and robust constitution, in a paroxysm of delirium arising from inflammation of the cerebral membranes, wounded himself with a stiletto in the left side of the thorax. The instrument entered below the nipple, and gliding along the superior margin of the cartilage of the sixth rib, was ultimately arrested in its osseous portion. Considerable hemorrhage followed, but was easily arrested; the fever soon subsided; the wound suppurated, and two months afterwards a fistulous orifice had formed, leading to the diseased bone. The disease having been treated in vain by incisions and the caustic, M. Cittadini was consulted after the lapse of eleven months from the time of the accident. On examination, he found that all the cartilage and a portion of the bony part of the sixth rib was rough and denuded, and decided upon its removal. With this view he dissected off the integuments, and ascertained that the disease extended in length about an inch and a half; the cartilage was divided by means of a probe-pointed bistoury, and the osseous portion by the aid of the cutting forceps. The principal arteries were tied, and the hemorrhage from the smaller branches restrained by means of compression; lastly, the diseased portion was carefully separated from the subjacent parts. During the operation the pleura had been opened in several places. The respiration was at first short and laborious, but at the expiration of some hours, it became natural. The wound was completely cicatrized at the end of two months, and the patient, who recovered completely, has never since experienced any affection of the breast.

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* Annali Universali di Medicina.

Case IV. A very robust man, æt. 50, was attacked with pleurisy of the right side, the symptoms of which, though very violent at first, yielded however, readily, to the appropriate means. During his convalescence, a hard tumour, painful upon pressure, made its appearance beneath the right breast, and upon the cartilage of the sixth rib near its sternal articulation. It slowly passed into the suppurative stage, and opened externally at the expiration of two months; a very narrow fistula ultimately formed, which for the space of ten months obstinately resisted every remedial measure. As soon as M. Cittadini had recognised the nature of the malady, he resolved to remove the portion of the rib which kept up the disease. Appropriate incisions were made through the integuments, but in consequence of the thickness of the layer of adipose cellular tissue lining the parietes of the thorax, he was unable to divide the cartilages with the bistoury as in the preceding cases, and was obliged to make use of the lenticular knife used in the operation of trephining. The subjacent pleura, greatly thickened, was divided in several places. A very profuse hemorrhage took place from the divided and torn branches of the intercostal arteries, but was soon arrested by a compress and bandage methodically applied. The author does not mention whether the opening of the pleura produced difficulty of respiration. The patient was completely cured at the end of six months.

Case V. A young woman had been troubled for several months with a fistulous sinus on the left side of the breast, terminating in the third rib, which was denuded. This affection, which arose from a severe contusion, was situated on the superior margin of the rib, near its union with the cartilage. M. Cittadini removed the diseased part in the same manner as in the preceding cases, except that he spared the whole inferior portion of the cartilage which remained sound. The cure was completed in about two months.

From the cases which I have detailed, observes M. Cittadini, it results that the excision of the ribs is not so dangerous an operation as surgeons have hitherto supposed, and that the hemorrhage arising from the division of the intercostal arteries may be easily arrested by compression, when the operation is performed on their sternal extremity; the ligature being necessary only when the middle or posterior part of these bones is to be divided. There are few surgeons who have not seen caries of the ribs productive of fatal consequences. It is well known that profuse suppuration, continuing for months and even years, is generally productive of marasmus and death. It is therefore very gratifying to know, that we may, without incurring any very great risk, remove, by means of the knife, all the diseased bones which keep up the suppuration.

Medical and Philosophical Intelligence.

Blisters in the early stage of Measles.—The *Lancet* of 27th September, contains the following communication from Mr. Matthews, member of the Royal College of Surgeons.

"I have had extensive opportunities of witnessing a great many cases of measles with its attendants, viz. inflammation of the lungs, and continued chronic cough, and have seen it treated according to common principles, with variable success. I am therefore induced to recommend a plan of treatment which, for its simplicity and utility, I think, cannot be surpassed, having more than a hundred times adopted it, and with a success which has entirely exceeded my most sanguine expectations. I am, therefore, convinced, that the disease may be cut considerably shorter, and many valuable lives saved, to the comfort of numerous families. I do not mean to put it forth as a novelty, but so far as I have any knowledge, it has not been employed in the manner I am about to mention. It is simply this—As soon as the first symptoms of the complaint show themselves, such as sneezing, with defluxions from the nose and eyes, *and before the eruption appears*, the prompt application of a blister to the chest, (of course with other suitable remedies,) seems to act like a charm, in most cases entirely preventing any affection of the lungs supervening. I have lately treated three cases, two according to the plan already laid down, and one upon the common principles of our best physicians, the parents of the child being averse to blisters. The latter is now scarcely recovered, after being ill six weeks; the two former were perfectly recovered in a fortnight. I shall not attempt to explain the modus operandi of blistering early, but the conclusions, I think, to be drawn, are these:—

"1. That the disease is rendered shorter and milder; 2. That the disposition to inflammation of the lungs, and its consequences, if not entirely prevented, is very much mitigated; 3. That the patients are not more predisposed to colds or coughs, than others in whom no disease had taken place; and, 4th. That the recovery is more rapid and lasting."

Enormous Tumour of the Thorax, supposed to have been Exostosis.—In one of the October numbers of the *Lancet,* we find an account of the post mortem examination of the case detailed in vol. i. page 213, of the Journal of Foreign Medicine. Unfortunately for surgery, observes Mr. Parker, the gentleman by whom it was communicated, this case is strikingly illustrative of the fallibility of human judgment. The tumour, on examination, *possessed no character of exostosis*, or *osteo-sarcoma;* throughout, its texture was soft, though solid, and appeared to have been well supplied with vessels. To give a familiar idea of its appearance and consistency, it very much resembled adipocere, except in colour, which was for the most part, of a dingy red. On dissecting back the integument on either side, it was observed, that the left pectoral muscle was remarkably pallid and attenuated; the muscle of the opposite side presented nothing remarkable. The tumour was covered with a thin layer of adeps, without the appearance of any distinct capsule or investment. Supposing it to have originated from the sternum, I attempted to dissect it off entire, but finding it more deeply imbedded than the situation of the bone would explain, I opened the thorax in the usual way, expecting that the extent and connexions of the disease would be at once developed. This was by no means the case, and to satisfy myself as fully as possible, I extended the opening to the parietes of the abdomen, and thus found the apex of the tumour projecting with the diaphragm before it, within an inch of the umbilicus. Without disturbing any of the viscera, I endeavoured to trace it through its whole extent; this I was in some measure enabled to do, though not completely to my satisfaction. On passing my hand between the tumour and the arch of the ribs, considerable resistance was offered from adhesions, apparently of long standing. Having accomplished its detachment on both sides, as well as the upper part, which was also adherent in a slighter degree, I continued the examination to the diaphragm; here the tumour was in close contact with the tendon of that muscle, indeed inseparably so, and on detaching it, which I could do in no other way than by cutting through the diaphragm, I found the heart healthy, but small and compressed, without its pericardium, immediately behind the tumour. The lungs were much smaller than natural, and flattened, evidently from want of space. From the examination, it appears to me, that the growth of the disease must have begun in the pericardium, and this opinion is strengthened, from the circumstance of the tumour having a distinct investment, answering to the pericardium on its under and posterior surface. The sternum was completely absorbed, not even a vestige of it remaining, and the cartilages of the ribs were unusually soft in a man approaching to 60. For a week or more, previous to dissolution, the subject of this disease was distressed with continual hiccough and sickness; the bowels had been for some time irregular, either constipated or much relaxed, and the breathing difficult, more particularly on any exertion. It may not be unworthy of remark, that the body, 36 hours after death, was quite warm, so much so, as to create some inquiry on my part. The abdominal viscera were healthy, though the stomach, which must have been much pressed on by the tumour, was smaller than natural. The weight of the whole mass, when removed, must have been little short of twenty pounds.

Hernia of the Foramen Ovale. By M. Mareschal.—Madame G——, æt. 47, of a nervous temperament and delicate constitution, was suddenly attacked, in the night of the 9th November, with very acute pain, extending from the left lumbar region towards the hypogastrium and groin of the same side. The left leg was benumbed, and affected from time to time with pain so acute, that it seemed to the patient as if some one were tearing this part. The lumbar region was painful, but pressure could be made upon the thigh and groin without increasing the sensibility. The urine was in small quantity, high coloured, and expelled with difficulty; the pulse was small and deep; extreme anxiety and agitation. These symptoms, together with the absence of all tumour in the inguinal region, induced the belief that it was a case of acute nephritis. *Twenty leeches to the seat of pain, cataplasms of linseed meal, emollient fomentations, semicupium, emulsions, &c.*

The next day hiccough and nausea supervened. These symptoms were considered symptomatic of nephritis, in which opinion Dr. Frissot, who had treated her some years previously for that disease, also coincided. *Twenty leeches were directed to the lumbar region—the other measures to be continued.* Retention of urine, during forty-eight hours; the patient refused to permit the introduction of the catheter.

For two days there appeared to be some amendment of the symptoms, the pain ceased, and the vomiting occurred less frequently; but all the symptoms were renewed on the seventh day. No tumour appearing exteriorly, internal strangulation was suspected, but what was the nature and seat of this strangulation? A consultation, at which MM. Marchand, Moizin, Frissot, and Willaume were present, was held on the 16th. On that day there was a marked remission of the symptoms; an enema, given the preceding evening, had procured during the night several evacuations, and as soon as this was affected, the vomiting ceased. The diagnosis became more difficult; had there been a temporary strangulation, or was the disease acute nephritis complicated with ileus? All doubt was removed the same evening; the hiccough returned, accompanied with fœtid eructations, and the next day copious and repeated vomiting of fœcal matter, sufficiently attested the existence of internal strangulation. No further evacuation from the bowels was procured by purgatives taken by the mouth, or exhibited in enemata. Death took place on the evening of the 23d, the fourteenth day of her illness.

Dissection.—Acute peritonitis, with serous effusion; the omentum, drawn towards the left inguinal region, made a depression upon the intestines; its extremity was engaged in the foramen ovale, together with a flexure of the ileum, which was completely strangulated; the intestine above the strangulated portion was greatly distended with fæces, while that below was empty. The muscles of the inner part of the thigh having been divided transversly, the member was placed in a state of strong abduction, in order to ascertain the relations of the parts with each other. The sac was not larger than a filbert, formed no projection exteriorly, was situated directly behind the pubis, and surrounded in great part by the obturator ligament; it was thus situated in a space bounded by the pectineus, the middle adductor, and posteriorly by the obturator nerve and artery. Strong and numerous adhesions has formed with the surrounding parts. The intestine was softened, and tore with the least extension; there was an evident softening in the inferior half of the left kidney.

M. H. Cloquet has related, in *Corvisart's Journal*, tome XXV., a case of entero-epiplocele of the foramen ovale, which terminated fatally. There was no tumour externally, and the nature of the disease was not known till after death. When we consider, says Mr. Lawrence, how the tumour is surrounded by muscles which prevent any considerable augmentation in the volume of the sac, we should be inclined to doubt the facts related by Garengeot, and to suppose that the disease could not be recognised during life. Are we to consider the severe pain which was seated in the thigh of the patient, whose case we have just detailed, as one of the most diagnostic symptoms? Ere we can pronounce decisively upon this point, other cases of the same nature will be necessary.—*Journal des Progres, &c.*

Action of Bromine, and of the Cyanuret of Bromine, upon the Animal Economy.—M. Barthez, of the *Hôpital Militaire de la Garde Royale*, has for some time past been engaged in researches into the effects of Bromine, the hydrobromate of potash, the deuto-bromuret of mercury, and of the cyanuret of bromine upon the animal economy. From experiments with the first and last of these four substances, he has drawn the following conclusions. 1st. Bromine, perfectly dissolved in distilled water, and injected into the veins, produces death in the dose of from ten to twelve drops, by coagulating the blood, without in any degree affecting the nervous system. 2d. Introduced into the empty stomach, the œsophagus being afterwards tied, it occasions death in three or four days; while, if the stomach be filled with aliment, it is converted into hydrobromic acid, the deleterious effects of which are much less energetic. If the œsophagus be not tied, from fifty to sixty drops will be required to produce death: in this case it is necessary that the bromine be not rejected immediately after its introduction into the stomach. 3d. Bromine, taken in an infusion of coffee, and swallowed before it has had time to become converted into bromic acid, is equally productive of fatal consequences. 4th. Bromine, introduced into the stomach of a dog, in the dose of from fifty to sixty drops, produces death, unless vomiting speedily supervenes. 5th. In its action it has a great analogy with iodine, and consequently should be placed by the side of that substance in the scale of irritant poisons. 6th. The cyanuret of bromine, like the cyanuret of iodine, should be classed among the narcotic-acrid poisons. 7th. Injected into the cellular tissue, in quantity of five to eight grains, it produces mortal symptoms, without, however, death being the invariable result. 8th. Introduced into the stomach of dogs, it occasions death only when given in the dose of four or five grains; a much less quantity is required to kill a rabbit, *cæteris paribus.*—*Jour. de Chimie Medicale, &c.*

Employment of Bromine in Scrofula and Goître. By M. Pourche.—Of all the points of view under which we contemplate the discoveries made in science, the most important is that which presents them to us in their relations with the art of alleviating or healing our infirmities; it is in this light that the discoveries in chemistry recommend themselves particularly to the attention of physicians. Since 1826, this science has made the acquisition of a new simple substance (bromine,) the energetic properties of which, encourage the hope that it may hereafter become extensively useful as a remedial agent. M. Pourché has conceived the happy idea of employing it in the treatment of scrofula and goître, two diseases for which we are not yet possessed of any certain remedy or method of treatment. The cases in which he has employed it are published in detail in the *Ephémérides Médicales de Montpellier*, March 1828. In two subjects of lymphatic constitutions, the scrofulous tumours were resolved under the influence of a treatment consisting of frictions with an ointment containing the hydro-bromate of potash, and of cataplasms sprinkled with an aqueous solution of bromine. In a third instance, an atorrhœa of long standing, and a scrofulous engorgement of the testicle, yielded to the same means, and in the internal administration of the preparations of bromine. A goître had undergone a reduction of two-thirds of its enormous volume, when M. Pourché published his observations.

M. Pourché employs bromine internally, sometimes in solution in water, and at others in the state of hydro-bromate; for the first, his formula is one part of bromine to forty parts of distilled water; this solution is given in the dose of five or six drops mixed with pure water, and the quantity gradually increased. In regard to the hydro-bromate of potash, it is obtained by the same process used in the preparation of the hydriodate of the same base. M. Pourché exhibits it in form of pills, to the extent of from four to eight grains a-day.—*Revue Medicale.*

On the Effects of the Division, or Organic Lesion, of the fifth pair.—It appears from the experiments of M. Magendie, H. Mayo, and C. Bell, on the action of the cerebral nerves, that on the division of the fifth pair, or when it is in a diseased state, the eye undergoes some peculiar morbid alterations. M. Magendie informs us (Jour. de Physiol. IV.,) that after the division of this nerve, the cornea becomes opaque, and that it, as well as the iris, begins to inflame and suppurate; an effusion of lymph takes place in the interior of the eye, and gradually the whole globe passes into ulceration. All these experiments, however, did not satisfy M. Magendie, and could not, in fact, lead to a clear result, as, on dividing the nerve, the internal carotid was invariably wounded; he therefore, in more recent experiments, divided the nerve before it passes over the pars petrosa, and then obtained an effect somewhat different from that described before; the eye was much less altered, the inflammation occupied its upper portion only, and but a very small segment of the upper circumference of the cornea became opaque. It appears, then, that the fifth pair of nerves exercises a direct influence on the nutrition of the eye; the different results of the experiments are easily accounted for by the circumstance, that in the former experiments of M. Magendie, the ophthalmic artery was separated from the internal carotid, and that thus the nutrition of the eye necessarily became affected.

The following pathological fact, reported by M. Serres, confirms the experiments of M. Magendie. A young man was admitted in the Hôpital de la Pitié, on account of epileptic attacks; at the same time a slight inflammation of the right eye was observed, the cornea was opaque, and the sight was to a considerable degree affected. All these symptoms gradually increased, till the sight was completely lost, and the right eye and eyelid, as well as the right side of the nose and tongue, were quite insensible. The patient died eleven months after admission, in a violent epileptic fit. On examination, the ganglion of the fifth pair was found enlarged, of a yellow colour, and very vascular; and on its exit from the pons varolii, the nerve was covered with a gelatinous mass.

Professor Mayer, of Bonn, (Journ. der Chirurg. u. Augenheilk,) has recently performed many experiments, from which it appears, that not only the division of the fifth pair is followed by morbid changes of the eye, but that the same effects take place after wounds of the neck. From eighteen experiments on dogs, horses, and pigeons, he comes to the following result: 1. The division of the cervical portion of the sympathetic nerve was sometimes made without any effect on the nutrition of the eye; in other cases it was followed by redness and inflammation of the conjunctiva; 2. The same morbid change, in most cases, followed the division of the pneumogastric nerve; 3. The sympathetic and pneumogastric nerve having been divided, a very intense inflammation of the eye took place, which extended to its internal parts; 4. If the carotid was tied, and at the same time the nerves in its neighbourhood were carefully avoided, the nutrition of the eye was in no manner influenced; 5. After a ligature of both carotids, the eyes suffered more or less; they became dim and opaque, but very seldom, a complete disorganization ensued; 6. But if the ligature comprised the pneumogastric or sympathetic nerve, an effusion took place from the anterior surface of the iris, the pupil was closed by a false membrane, and the cornea passed into suppuration.—*Lancet.*

Employment of General and Local Bleeding in Cases of Poisoning.—In every case of poisoning, the first indication is to prevent the absorption of the deleterious substance, and to occasion its evacuation from the body as speedily as possible. In some very ingenious experiments, M. Magendie observed, that, when a state of artificial plethora was induced by injecting warm water into the veins, the absorption of the poison was suspended, and its effects arrested. The operation, however, is difficult to perform, and few persons would be found willing to submit to it. M. Verniere imagined, that by producing this state of local plethora by means of a ligature, and permitting the blood on the distal side of the ligature, loaded with the poisonous matter, to flow out, the same consequences would result; to test the truth of this conjecture, the two following experiments were performed.

Three grains of the alcoholic extract of nux vomica, prepared by M. Pelletier, were spread upon a wound made in the right cheek of a small dog; six minutes afterwards, during which time the operator moderately compressed the jugulars with his fingers, a large orifice was made in the jugular vein, and the blood permitted to flow freely; the animal, when placed upon his feet, experienced only a slight degree of weariness.

In the second experiment, three grains of the extract were introduced beneath the skin covering the dorsal surface of the right forefoot of another dog, and a tightly drawn ligature applied; five minutes afterwards, the wound being made quite clean by washing off the poison, the ligature was removed, and the animal, placed upon its feet, walked quietly along, but in a little while was seized with tetanic convulsions of extreme violence; a large opening was immediately made in the jugular vein, the blood flowed copiously, the convulsions ceased in about thirty seconds, and the animal, set at liberty, walked as well as before; the only symptom observable was a rattling sound in respiration, which soon disappeared. In this instance the ligature, by suppressing at the same time the arterial and venous circulation, had prevented the production of plethora, the cellular tissue was in consequence impregnated with the poison, and however carefully the wound might have been washed, the quantity absorbed was sufficient to induce, upon the removal of the ligature, tetanic symptoms of the most violent character.

From this experiment some important practical results may be deduced. It demonstrates, in the first place, the inutility of a ligature, though very tightly applied, when the poisoned blood included by it is not also evacuated; it also shows, (and it is a fact of high interest in toxicology,) that even after a poison has penetrated into the torrent of the circulation, the evil is not beyond the resources of art, but that it is possible, by means of copious general bloodletting, to reach the poisonous substance and drive it out of the system.—*Jour. des Progrés, &c.*

Superfœtation; by Professor Wendt, of Breslau.—A woman bore twelve children between the years 1773 and 1792, ten of whom were girls, and two boys. In three of her *accouchmens* there was a plurality of children. On the 15th February, 1781, she was delivered of a child which died the next morning, and on the 8th of the following April, 52 days afterwards, she gave birth to another child, which is still living, and married. August 4th, 1786, she was delivered of an infant which died eleven days after birth, and on the 30th of the succeeding month, another was born, which also is still living, and married. Finally, October 25th, 1791, she gave birth to a child which died on the 10th November of the same year, and two days afterwards, she was delivered of another, which died the same day. All these children were females. Professor Andrée, from the statement of the mother, that the first children of the two first mentioned pregnancies, had lived and taken the breast like those who have arrived at the full term, considers these two double pregnancies as the product of a true superfœtation. Professor Carus, on the contrary, thinks that the children alluded to had not arrived at the full term, from their dying almost immediately after their birth, while those who were born later continued to live. He believes that when the uterus does not possess the proper degree of energy to contain and permit the evolution of two fœtuses, one is expelled, or dying, is retained in its cavity by the side of that which survives, which must happen when there is only one placenta. Professor Rudolphi explains these three instances of double pregnancy, by supposing the existence of a double uterus, one of which may have been less developed than the other, and founds this opinion upon the fact related by Cassan,* that one of the children was born fifty-eight days later than the other. After the expulsion of the first child, the midwife found the uterus empty, and by its side a moveable tumour, the nature of which she was unable to determine, and which must have been the second uterus containing another fœtus. Dr. A. E. de Siebold regards these opinions as admissable, but he is unable to determine to which the fact in question should be referred. As to the opinion of Osiander the father, who pretends that a double pregnancy cannot exist with a double uterus, it is completely overturned by the case related by Cassan.—*Jour. des Progrés, &c., from the All. Rep. Jan.* 1826.

Case of Chronic Pemphigus; by Dr. Asdrubali.—Anna Balbi, æt 10, was attacked with general rheumatic pains, which continued throughout the winter, and did not cease till after the lapse of six months. In the spring, vesicles or ampullæ, characteristic of pemphigus, made their appearance, first on the fingers, six or seven days afterwards upon the thighs and feet, and ultimately extended over the whole body, with the exception of the hairy scalp. They came out suddenly, had an irregular form, and exceeded a filbert in size. A slight erythematous inflammation was observed around the base of some of them, and all contained a yellowish serum; they opened spontaneously, and were converted into a black or red scab, the fall of which was speedily followed by new ampullæ. The eruption was unaccompanied with fever.

The disease had continued twenty months, when Dr. Asdrubali saw her for the first time; the patient, pale and emaciated, was unable to stand, the integuments were almost wholly ulcerated and covered with encrustations, which discharged large quantities of pus. The slightest friction was sufficient to give rise to ampullæ. Dr. Asdrubali directed sulphur to be taken internally, and externally lotions with a decoction of elm bark, while the encrustations were anointed with butter to preserve them in a state of cleanliness, and to prevent the contact of irritating substances. After this treatment had been continued a month, the ampullæ had extended even over the scalp, and had increased in size and number; the vesicles were entirely yellow, as if sulphur were mixed with their contents, and in colour the encrustations appeared like fragments of this mineral. The administration of the sulphur was suspended, and some of the preparations of iron substituted, which, with the occasional use of the warm bath, completed the cure.—*Bull. des Sciences Medicales.*

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* Recherches Anat. et Physiol. sur les Cas d'Uterus Double et de Superfœtation; par A. L. Cassan. Paris, 1826, in 4to, p. 51.

Calculus situated within the Glans Penis, removed by Incision.—A young naturalist, while voiding his urine, perceived a rough and unequal body passing along the urethra, which was arrested at the base of the glans; this happened in 1807. The evacuation of urine and emission of semen being little impeded by this accident, and the patient unable to discover the foreign body by the touch, he did not resort to proper means for its extraction. In the years 1814, 1818, and 1819, he passed gravel with his urine, and the last year particularly, every evacuation was attended with great pain. Little solicitous about the state of his health, he did not notice the increased size and induration of the glans, or rather, supposed that this condition was natural. In 1822, he married, and had children: the act of coition was attended with no pain or difficulty. Three years after his marriage, the ardor urinæ with which he had long been troubled, increased considerably, and frequently drops of blood followed the evacuation of urine; to these symptoms violent nephralgia was added, which induced the patient to apply to a physician, but no thorough examination was instituted. In 1826, other symptoms, such as loss of appetite, sleeplessness, melancholy, emaciation and inflammation of the prepuce, led him again to seek medical assistance. The inflammation having been subdued, a calculus was found, upon examination, situated at the anterior extremity of the urethra, about the fossa navicularis. A directory was introduced in front of the calculus, and the upper portion of the glans, together with the prepuce, was divided by means of the bistoury; on separating the lips of the wound, the calculus was seen occupying all the interior of the glans, and extracted without difficulty. The cavity containing it was slightly ulcerated. No unpleasant occurrence followed, and the patient entirely recovered. Although the tissue of the glans was almost entirely destroyed, being reduced to two thin lamellæ by the operation, it reacquired its natural form. The calculus was solid, had the form of a chesnut, and was of a dirty white colour, with some reddish spots; the greater part of its surface was smooth. The base, which was nearly circular, measured three inches (French) and seven lines in circumference; its greatest diameter was one inch and one and a half lines; it measured an inch from the base to the summit. A few days after its extraction the calculus weighed 284 grains. —*Bull. des Sciences Médicales.*

Mr. Lizars' Method of Amputation.—In amputation of the thigh, arm, and fore-arm, Mr. Lizars makes two flaps, cutting from without inwards, with the knife the same length as the longest used by Lisfranc, with this difference, however, that it has only one cutting edge. In amputation of the thigh, he makes the outer flap first, cutting nearly transversly to the bone, the incision pointing a little obliquely upwards towards the trunk; he then carries it along the outer edge of the bone, four or five inches, in the same direction, according to the muscularity of the limb. The inner flap is made to correspond precisely with the outer; the assistant instantly grasping the innner flap, and thus completely commanding the artery; so that, if the operator chooses, he may with safety perform the operation without a tourniquet.

The superiority of this mode of amputation over that of transfixion, is said to be, that the surgeon can lengthen his flaps as much as he pleases, even in the middle of the operation, if he considers them too short to cover the bore; besides, he cuts in the same line of direction; whereas, in transfixion, he cuts first from, and then towards himself. In this mode also the flaps are much fuller and thicker; and no lower third flap can possibly remain, as in transfixion.

Uterine Hemorrhage.—The introduction of the hand into the uterus is a very general practice in those cases of uterine hemorrhage which occur soon after delivery, and depend principally on a complete atony of the uterine fibres; it is but too well known how often our purpose of exciting contraction fails, and in how short a time the patient, in spite of all our endeavours, will sink under the effects of depletion. In such alarming cases, Plourquet first recommended pressure on the abdominal aorta through the parietes of the uterus, or by pressing on the belly; we think that the following cases will impress our readers with a favourable opinion of the practice.

Dr. Eichelberger was called to a lady who had been attacked very soon after delivery with profuse hemorrhage; he found her almost swimming in blood, with a pallid face, cold sweat, senseless, and in convulsions; the pulse could not be felt, the extremities were cold, &c. Cloths dipped in cold water had been applied to the belly, but without any effect. Dr. Eichelberger introduced his hand into the uterus, and with his fingers compressed the aorta, the pulsation of which was very distinctly felt. The hemorrhage was instantly stopped, but the uterus showed no disposition to contract. The hand was accordingly retained in its position, and tincture of opium and cinnamon given internally. After an hour the uterus began to contract, and the hand could be safely removed. Dr. Eichelberger followed the same practice in two other cases of alarming hemorrhage, and found it equally successful. The relaxation of the uterus was so great, that the hand could be easily moved towards any part of the abdomen, and the rolling of the intestines could be distinctly felt.

Another case of uterine hemorrhage, where compression of the aorta was employed with success, occurred in the obstetrical clinic of Berlin, under Von Siebold's superintendence. The child had been turned, and delivery had been very difficult; after removal of the placenta, a most alarming hemorrhage took place; cold water to the belly, injections of water and vinegar, the internal use of ether, tincture of cinnamon, and phosphoric acid, had been employed without any effect, and the patient was evidently very near her dissolution, when one of the assistants began to compress the abdominal aorta by external pressure on the abdomen. The hemorrhage was staid almost instantly, and the patient very slowly recovered.—*Lancet, from Seibold's Journ., Gebertshuelfe, &c.*

Nymphomania cured by cauterization with Nitrate of Silver.—M. Ozanam, of Lyons, transmitted lately to the Royal Academy of Medicine, a case of nymphomania in a woman 30 years of age, who having miscarried three successive times, towards the fifth or sixth months of her pregnancy, was seized with a violent attack of furor uterinus. Her husband refusing to satisfy her inordinate desires, she gave herself up to continual masturbation. Some general remedies for a time calmed the violence of the attack, but it soon returned. M. Ozanam was consulted, and found the external parts of a burning heat, the labia tumefied and red, the clitoris about an inch in length and very hard. The nymphæ were also swollen, with small ulcerations on their surface; these were touched with a solution of lunar caustic in water for two or three days, and afterwards with the caustic itself; she was also kept to a very rigid diet. After the fourth application the inflammation of the parts had almost disappeared, and the patient was nearly cured.—*La Clinique.*

Mercury.—M. Colson, surgeon to the Hôtel Dieu de Noyon, who has long been engaged in investigating the effects of mercury upon the system, has recently succeeded in detecting the presence of this mineral in the blood of persons to whom it had been administered. In one instance, a young man had swallowed, by mistake, four or five ounces of the liquor of Van Sweiten; violent fever supervened, requiring venesection. Furnished with a plate of burnished brass, M. Colson directed the jet of blood upon it, and left it in the basin for the space of twenty-four hours, at the end of which time, mercurial stains upon the brass became evident. A similar result was obtained in the other instances. Fourcroy relates in his translation of Ramazzini, that the serum having been collected from a great number of phlyctenæ, which appeared upon the thighs and legs of a gilder, an infinite number of mercurial globules was found in the bottom of the vessel containing it. M. Gaspard has found them in the alvine evacuations; Petronius in the matter ejected by vomiting, where the mineral had been employed in frictions; Rhodius, Breyer, Valvasor, Guidot, Vercelloni, Burghard, Didier, Haeschtter, and recently Dr. Cantú, of Turin, in the urine. It has been found in the bones, synovial membranes, in the pleura, and in the lungs. In our own day, M. Dumeril has found it in different parts of the body; MM. Orfila and Pickel have obtained it by distillation of the substance of the brain and nerves; and it is stated in the last number of the *Bull. des Sciences Medicales*, that Professor Hunefeld, of Griefswold, has found it in its metallic state in the semi-liquid contents of a lipoma.

Salt of Rigatelli.—The febrifuge virtues attributed to this preparation,* have induced M. Ricci, physician to the hospital of Turin, to repeat the experiments of his countrymen. Three cases of intermittent fever are detailed, in which it was given to the extent of forty and sixty grains during the apyrexia; in each of the three instances it failed entirely, and they were ultimately cured by the sulphate of quinine, or the bark in substance. M. Ricci observes, that it can by no means be considered a substitute for the cinchona, or even be compared to that article.—*Revue Medicale.*

Remarks on the Stomach.—It appears, according to Soemmering, that the stomach of the negro differs from that of the European, in being more rounded, and liker to that of the monkey. This rounded shape is particularly remarkable in the large extremity.

The straitening which is found in the middle of the stomach in certain individuals is almost exclusively met with in women, and he supposes it to depend upon their dress. There is no trace of it in infants.

The opening of the pylorus differs in different persons, and four principal modifications are represented in corresponding engravings. These varieties depend principally on a glandular ring, which is pretty firm, and forms the border of the opening, and may be seen on elevating the peritoneum and subjacent cellular tissue with ease.—*Denkschriften d. K. Akad. d. Wissench za. München.*

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* Vide Journal of Foreign Medicine, Vol. II. page 473.

Caries of the Sternum treated by the Actual Cautery. By M. Beauchene.—The patient was admitted into the Hôpital Saint Antoine, with an ulcerated tumour, situated in front of the sterno-clavicular articulation; it made its appearance about four months before, in form of a pimple, and without any known cause. He had never had syphilis, nor had previously experienced any deep-seated pain in the diseased part, but had suffered much from acute rheumatism, which was located principally in the shoulder joints. A sero-purulent liquid flowed from the ulcerated surface, and upon examination the sternum was found denuded and carious, notwithstanding which the articulation was free, and motion in no degree impeded.

July 16th.—M. Beauchêne made a circular incision over the tumour, dissected up the flaps, and exposed the bone, which was surrounded by soft, bleeding and fungous vegetations, easily detached with the finger nail; the cautery, heated to a white heat, was applied over the whole diseased surface. Two hours afterwards, a considerable hemorrhage took place from the wound; the patient grew pale, became extremely feeble, and his pulse was scarcely perceptible. The dressings were removed, and the blood was seen to flow *en masse* through the spongy tissue of the sternum,—it was arrested by means of compression with pieces of agaric. On examining the wound at the expiration of four days, the disease was found still unarrested, and pus flowed at each inspiration from the cells of the sternum. The cautery was again applied, and the wound dressed with pledgits of lint spread with cerate, and a poultice, as before. The next day erysipelas made its appearance around the wound, and soon extended to the neck, ear, scalp, and ultimately involved the face, which became enormously swelled, tense and painful; large phlyctanæ made their appearance, and the patient laboured under all the symptoms of great cerebral congestion; intense cephalalgia, difficulty in articulation, delirium, &c.; the digestive organs remained unaffected. Three large bleedings were successively performed, and other measures adopted, with the effect of removing these urgent symptoms. During the eight days the erysipelas continued, the wound ceased to suppurate, and the granulations became flaccid, and of an unhealthy appearance; but as soon as the symptoms subsided, they assumed a more favourable appearance, and the suppuration was re-established. Cicatrization advanced rapidly, and by the 20th August, the wound was reduced to three-fourths its former size; some small pieces of bone remain to be detached, after which the wound will probably speedily heal. —*Nouvelle Bibliothèque Médicale, &c.*

Treatment of Dropsies.—The September number of the *Revue Medicale* contains some observations by M. Guibert on the application of the *methode iatraleptique* to the treatment of dropsies, and particularly of ascites.

This method consists in the employment, two or three times a day, of frictions with the following liniment upon the thorax, abdomen, or legs, according to the seat of the disease. Tincture of squills, of digitalis, and of colchicum seeds, each half an ounce; camphorated and ammoniated oil, an ounce and a half. The frictions to be made with a woollen or flannel cloth, and to be continued from five to twenty minutes, according to the quantity of fluid extravasated, and the urgency of the symptoms. Diuretic beverages, and pills composed of squills, digitalis, &c. are at the same time given internally. This treatment will, of course, be varied according to circumstances; it may be sometimes advisable to suspend it for a time, or to conjoin it with demulcents, gentle laxatives, enemata, &c. &c.; and if the dropsy be recent, and the cause producing it be known, its removal by appropriate means should constitute the first indication.

The *methode iatraleptique*, observes M. Guibert, such as I employ it in the treatment of dropsies, has especially appeared to me very advantageous in ascites; and it is principally to the use of the liniment above mentioned, that I attribute the success which I have met with in the cure of that disease. The remedies given internally, have been highly useful as auxiliaries, but alone, were insufficient to produce the profuse urinary discharges, I might almost say, the artificial diabetes, which I have observed in different cases, and the rapid disappearance of the great extravasations which I have had to treat. A number of cases, corroborative of the efficacy of the plan, is related, from which M. Guibert deduces the following conclusions:

1. The cases above mentioned, and I might adduce many others, evidently prove that diuretics, when opportunely administered, and in sufficiently large doses, are, of all the remedies used in dropsy, those which are most uniformly successful.

2. The iatraleptic method, or the use of frictions, is one of the most advantageous modes of employing these medicines, inasmuch as they thus act upon a large surface, and do not fatigue the stomach.

3. It is, nevertheless, always useful to associate with it internal remedies, in order to obtain a more prompt effect.

4. This combined treatment is sufficiently active to produce, in a very short space of time, the diminution of a dropsy which has reached a considerable volume, and thus to obviate, in many cases, the necessity of paracentesis; an operation almost always merely palliative, and which must be repeatedly performed, at intervals more or less protracted, in order to prolong the existence of the patient; whereas, by the persevering employment of the plan which I have advised, we may expect to produce the complete absorption of the effused fluid.

5. Finally, this method is attended with no inconvenience, provided, the inflammatory symptoms, if any exist, have been previously removed by appropriate means. In cases complicated with organic alterations, it will even

succeed in exciting the absorbent and urinary systems, although the primitive cause of the disease still exists, and sooner or later must occasion its re-appearance. In simple ascites on the contrary, and in anasarca, or œdema of the lower extremities, its success is almost infallible.

Anasarca. By Dr. JUGER.—The subject of the case was an old man, æt. 65, of a weak and and even cachectic constitution, much addicted to spirituous potations, obliged to labour in the open air, and worn out by sorrow and privation. After having experienced, in the spring of 1824, some wandering rheumatic pains, for which he was treated by sudorific beverages, he was suddenly attacked in August of the same year with general anasarca, which soon incapacitated him for walking; his respiration became short and difficult, the debility increased, and a febrile movement manifested itself every evening. The urine was sometimes abundant, and at others almost wanting; the skin was always dry. Unable to succeed in exciting the activity of the cutaneous vessels by internal remedies, such as tartarised antimony, acetate of ammonia, arnica, &c., remedies which seemed especially indicated by the preceding rheumatic affection, Dr. Jüger had recourse to frictions with tartar emetic ointment, at first upon the abdomen, and afterwards upon the lower extremities, until these parts were covered with pustules; taking care to keep up the excitement of the skin by new frictions, in proportion as the effect of the former subsided. At the same time, tonic and diuretic medicines were given internally. The urinary secretion soon became more abundant; copious alvine evacuations, and profuse perspiration succeeded. In a little while the quantity of urine surpassed that of the fluids taken; and from this period, the œdematous engorgement progressively diminished, and after the lapse of four weeks, had entirely disappeared. The pustules caused by the ointment, furnished an enormous quantity of purulent matter. To complete the cure, Dr. Jüger directed five of the following pills to be taken morning and evening.—℞. Sulph, stib. aurant, gr. x.; aloes, ʒiss.; pulv. scill. pulv. digit. purp. āā gr. xv.; crem. tart. ʒii.; ext. card. bened. q. s. ft. pil. 100.—*Grafe's and Walther's Journal.*

On the Anemia of the Hand caused by Cold. By Professor NAUMANN.—This gentleman has twice observed this affection in a very high degree. It makes its appearance especially in cold and moist weather; less frequently in proportion when the cold was very intense, and not at all in summer. The hands become pale; no blood flows when the skin is injured; the contact of a cold body is sufficient to reproduce the disease several times a day. All the symptoms disappeared under the influence of heat and the return of the blood into the affected part. The persons affected continue very well while they confine themselves to a warm chamber, or take exercise. All the attempts hitherto made for the cure of this morbid disposition, have been hitherto ineffectual; electricity, dry frictions, stimulating embrocations, &c. have been alike unsuccessful. The proximate cause of the disease is not known.—*Bull. des Sciences Med.*

Treatment of Amaurosis by Frictions with the Ammoniacal Liniment of Dr. Gondret.—It has long been thought that amaurosis was dependent upon paralysis of the retina, but numerous experiments tend to prove, that it is still more frequently connected with lesion of the fifth pair of nerves.

Vicq-D'Azir having exposed, and bruised the frontal nerve of an animal, produced blindness; and the same results have been obtained by M. Ribes on repeating his experiments. Notwithstanding these facts, Petit de Namur having read to the academy, the case of a patient who lost his sight in consequence of a wound on the eyebrow; a very spirited discussion followed, in which the blindness was by some attributed to a fracture of the cranium; by others, to an extravasation; while others again contended that the case had not been accurately reported.

Since the experiments of M. Magendie, however, no doubt can be entertained respecting the influence of the fifth pair of nerves on the vision. This physiologist having divided these nerves in many animals, has observed as an invariable result, the eye to inflame, and the cornea to become opaque and fall forward. The following pathological fact, related by M. Serres, is corroborative of this opinion. A woman under the care of this gentleman, lost the senses of sight, taste and smelling, on one side alone. On examination after her death, the fifth pair of nerves, where it runs over the temporal bone, was found enlarged, softened, and converted into a yellowish substance.

Amaurosis then, arises more frequently than is generally supposed, from lesion of the fifth pair of nerves, and it is in these cases especially that the ammoniacal liniment proves useful. It is generally applied over the forehead where the branches of this nerve are distributed, after having traversed the orbit. It occasionally happens that the inflammation it induces, terminates in gangrene of the integuments; sometimes the patients are attacked with violent pains in the head, for which venesection is necessary; in other cases, it produces an ulcer of greater or less extent, and here its application once in two or three days is sufficient; in cases when no such effects are produced, frictions are made daily. However efficacious the remedy may be, we are not to expect a very marked improvement before the lapse of a considerable time; frequently it is not till after two or three months that the amendment is perceptible; this, however, is by no means always the case, several cases have occurred, in which an evident improvement has taken place so early as the second or third week. Several cases have fallen under our observation, in which this treatment was successfully adopted.—*Nouv. Biblioth. Médicale.*

Observations on Amber. By M. **Berzelius.**—It is well known that amber is most commonly found in brown coal, and that it has been observed in the trunk of a tree lying in a mass of brown coal. There is no doubt whatever of this fossil resin having been originally a vegetable product. The numerous bodies found inclosed in it, as for example spiders, wings of all sorts of insects, a corolla perfectly blown, (contained in the collection of the Upsal Academy,) impressions of barks and branches, which are not uncommon, sufficiently prove that amber, like common resin, originally flowed in the state of a balsam, and that it afterwards hardened under the form of a resin. The following observations, if it is needful, would furnish additional proof of the origin of amber.

This resin contains at least five different substances: 1st, an odoriferous oil in small quantity: 2d, a yellow resin intimately combined with this oil, and which readily dissolves in alcohol, æther, and the alkalies; which is very fusible, and resembles common resins not of fossil origin: 3d, a resin difficultly soluble in cold alcohol, better in boiling alcohol, from which it separates on cooling in the form of a white powder, and which dissolves in æther and the alkalies. These two resins and the volatile oil, which æther extracts from amber, form after the evaporation of the æther upon water a natural viscous balsam, of a strong smell and a bright yellow colour, which subsequently hardens, preserving a portion of its odour. There is every reason to suppose that this body is precisely what amber originally was, but still perhaps less rich in essential oil than then; and that the insoluble parts of amber have been formed by time from the alteration of this balsam, a portion of which has been enveloped and defended from further alteration. The fourth substance contained in amber in succinic acid, which is dissolved with the balsam by æther. The fifth substance is insoluble in alcohol, æther, and the alkalies, and bears some relation to the matter which John has found in gum-lac, and which he has designated by the name of principle of lac (*lackstoff;*) this is formed in the greatest quantity when this resin is dissolved by an alkali, and bleached by chlorine and precipitated.—*Annales de Chimie.*

Artificial formation of Urea. By M. F. **Wohler.**—M. Wohler has already shown, that when cyanogen is made to act upon solution of ammonia, there are obtained, besides several other products, oxalic acid, and a white crystalline substance, which occurs also whenever the attempt is made to combine cyanic acid with ammonia by double decomposition. On prosecuting his inquiries, M. W. found that by the combination of cyanic acid with ammonia, urea was formed; this is a remarkable fact, as offering the artificial formation of organic matter, and even animal matter, by means of inorganic principles.

The white crystalline substance is most readily obtained by decomposing cyanate of silver by a solution of muriate of ammonia, or cyanate of lead by liquid ammonia; it is colourless, transparent, and crystallizes in the form of small rectangular quadrilateral prisms without any distinguishable pyramids. Neither potash nor lime evolves any trace of ammonia from this substance. Acids do not, as with the cyanates, disengage either carbonic or cyanic acid: it does not, like the cyanates, precipitate the salts of lead and silver; it is therefore evident that it contains neither ammonia nor cyanic acid. Most acids have no marked action on this substance, but the nitric acid when added to a concentrated solution gives a precipitate in the form of brilliant scales. These crystals are extremely acid, and were at first supposed to be a peculiar acid, but when decomposed by bases, nitrates of those bases were obtained; and by alcohol, the white crystalline matter was obtained unchanged in its properties: these properties, when compared with those of pure urea obtained from urine indicated that this substance, or cyanate of ammonia, is absolutely identical with urea; a conclusion which is strengthened by the properties assigned to urea in the writings of Proust, Prout, and others. M. Wohler states some facts with respect to urea (and also with regard to this artificial substance,) which he says have not been previously noticed. When natural or artificial urea is decomposed by heat, there is produced, besides a large quantity of carbonate of ammonia, towards the end of the operation a smell of cyanic acid resembling that of acetic acid, precisely as occurs during the distillation of cyanate of mercury or uric acid, and especially urate of mercury. By the distillation of urea, a white substance is also obtained, the properties of which are under examination.

If cyanate of ammonia be similar to urea, then the composition of the former as obtained by calculation should resemble that of the latter; assuming one atom of water in cyanate of ammonia, as in all ammoniacal salts which contain any, and adopting Prout's analysis of urea as the most correct, it consists of

Azote - - - - - - -	46.650	4 atoms.
Carbon - - - - - - -	19.975	2
Hydrogen - - - - -	6.670	8
Oxygen - - - - -	26.650	
	99.945	

Cyanate of ammonia should consist of 56.92 cyanic acid, 28.14 ammonia, and 14.74 water, which give as its elements:

Azote - - - - - - -	46.78	4 atoms.
Carbon - - - - - - -	20.19	2
Hydrogen - - - - -	6.59	8
Oxygen - - - - -	26.64	

By the combustion of cyanic acid by means of oxide of copper, two volumes carbonic acid gas, and one volume of azote are obtained; but by the combustion of cyanate of ammonia, there should be procured equal volumes of these gases, which is what Prout actually found in the combustion of urea.—*Annales de Chimie.*

Cyanic Acid.—This acid has recently been obtained in a solid form by M. Serullas; it is white, insipid, susceptible of crystallization, reddens the greater number of blue vegetable colours, is insoluble in alcohol, and nearly so in water. It is prepared by dissolving the perchloruret of cyanogen in water, evaporating to dryness, and to the complete volatilization of the hydrochloric acid. In the reaction which takes place during this process, a part of the water is decomposed, the hydrogen uniting with the chlorine is converted into hydrochloric acid, while the oxygen entering into combination with the cyanogen forms cyanic acid.—*Jour. de Chimie Médicale.*

New Publications.

Précis analytique de systeme de M. le docteur Gall, sur les facultés de l'homme et les fonctions du cerveau, vulgairement cranioscopie.

Recherches Anatomiques, Physiologiques et Pathologiques sur le systeme veineux, et specialement sur les canaux veineux des os; par M. G. Breschet, docteur en Médecine, chef des travaux anatomiques de la Faculté de Paris, &c. &c. Sixième livraison.

L'Hystérotomie, ou l'amputation du col de la matrice dans les affections caucéreuses, suivant un nouveau procédé, avec la description de l'hysterotome et de plusieurs autres instrumens nouveaux présenté a la Faculté de Médecine de Paris; par Columbat, de Vienne.

Du degré de Compétence des Médecins dans les questions judiciaires, relatives aux alienations mentales, et des théories physiologiques sur la monomanie; par Elias Regnault, avocat a la Cour Royale de Paris.

Recherches et expériences sur les poisons d'Amerique, tirés des trois régnes de la nature, et envisagés sous les rapports de l'histoire naturelle, de la physiologie, de la pathologie et de la chimie, avec un essai sur l'empoissonement par les miasmes des marais, le mal d'estomac des negres (cachexia africana,) et les maladies qui ressemblent aux empoissonnements; pour servir à la toxicologie générale du continent d'Amerique et des Antilles; par J. B. Ricord-Madianna, docteur en Médecine, &c. &c.

Military Medical Reports, containing Pathological and Practical Observations, illustrating the Diseases of Warm Climates. By James M'Cabe, M.D. &c.

Plain Observations on the Management of Children during the First month. London, 1828.

Medical Essays on Fever, Inflammation, Rheumatism, Disease of the Heart, &c. By Joseph Brown, M.D. &c.

A Manual of Modern Surgery, founded upon the Principles and Practice lately taught by Sir Astley Cooper, Bart. F.R.S. and Joseph Henry Green, F.R.S. Edited by Thomas Castle, F.R.S. &c.

Elements of Descriptive and Practical Anatomy, for the use of Students. By John Quain, A.B. M.B. Member of the Royal College of Surgeons, and one of the Lecturers on Anatomy in the Medical School, Aldersgate-street.

Literary Intelligence.

An Essay on the Operation of Poison upon the Living Body, by Mr. Morgan and Dr. Addison, of Guy's Hospital, will very shortly be published.

A Manual of the Anatomy, Physiology, and Diseases of the Eye and its Appendages. By S. J. Stratford, Member of the Royal College of Surgeons in London: Surgeon to the Dispensary for Diseases of the Eye; and late senior Assistant Surgeon of the 72d, or Duke of Albany's own Highlanders.—8vo.

Elements of Chemistry. By Andrew Fyfe, M. D., F. R. S. E. In two vols. 8vo., boards, and numerous engravings. Pp. 513 and 520.

Mr. Amesbury has in the press a work on the Treatment of Fractures, in which he has shown that the common opinion entertained, that fractures of the *neck of the thigh-bone cannot be united,* is erroneous. He has detailed his mode of treating these cases so as to restore to the patient the natural powers of the limb without deformity. The work will be published in a few days, in 1 vol. 8vo.

Mr. Richards has in the press a Treatise on Nervous Disorders, with Observations on Physical Sympathy, and a Dissertation on the best Dietetic and Medicinal Remedies.

Mr. Ashwell has in the press a work on Parturition, with plates.

THE

MONTHLY

JOURNAL OF FOREIGN MEDICINE.

FEBRUARY, 1829.

From the Edinburgh Medical and Surgical Journal.

THOUGHTS ON CONTAGION. By Thomas Masterman Winterbottom, M.D.

(*Continued from p.* 24.)

In the list of contagious diseases, we find *phthisis pulmonalis,*[*] though not generally acknowledged as such in this country; yet we meet occasionally with such melancholy instances of the disease following close attendance upon a near relative or friend, even in those not apparently disposed to it, as must excite considerable apprehension on the subject. No prudent physician would allow a young and healthy person to sleep in the same room with a patient in an advanced stage of phthisis, where it can be avoided; and certainly he would not permit the same bed to be used at any period of the disease. In the south of Europe it is universally dreaded; and at Naples a public *ordonnance*[†] commands the clothes, and even the furniture, used by such as have died of phthisis, to be burnt on the sea-shore. An infringement of this order is punishable by confinement in prison, or condemnation to the gallies.[‡]

Yaws, (*variola magna* of the middle ages? Safathi of the Arabians; termed *Gatoo* by the Africans in the Rio Volta, according to Dr. Isert, in his *Reise nach Guinea*) is another disease of the same class happily unknown in Europe. This disease is noticed by Piso under the title of Lues Indica, (Historia Naturalis et Medica Indiæ Orient. p. 43.) He remarks, "Sicuti citius sanatur a solis remediis indigenis; ita citius contaminat, quam illa quæ lues Gallica vulgo vocatur et ad incolas hac defertur." The natives cure it, he says, with decoctions of sarsaparilla, and caaroba, sassafras, or guaicum. Bontius[*] ascribes this disease to the too abundant use of cakes made of sago, and the immoderate drinking of Palm wine, but certainly without any foundation. Schilling[†] blamed the use of an agreeable and innocent fruit called Banana. In a good practical paper on yaws inserted in Meckel's Neues Archiv. der Pract. Arzneykunde, and in Richter's Chirurg. Bibliothek, Vol. xii. 340, by Lœfler, that author remarks, that the blacks are more subject to be infected than whites, owing to their bodies being less defended by clothes. He recommends the sarsaparilla; and to promote the eruption of the pustules, he advises small doses of ipecacuan, camphor, warm-baths, frictions, and blisters applied to different parts. Under the indigenous name *Boisie*, he describes, not yaws, but the incipient stage of elephantiasis. In noticing this disease, yaws, Dr. Bach has committed a slight error, in common with some other writers of deserved reputation, by asserting that it is endemial in the whole of Africa, Amboyna, and the Molucca Islands. But as yaws is communicated in the same way as the venereal disease or the itch, it is just as much endemial in Africa, as lues or itch is in this country. Neither are negroes more disposed to this disease than whites. The same exposure produces the same effects in the European as in the Negro.

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[*] Grundzuge zu einer Pathologie der ansteckenden Krankheiten, von Dr. Fr. Chr. Bach, a very interesting work, containing many curious and important facts; and of which it may be sufficient to remark, that it is ushered in by a recommendatory preface from the learned Kurt Sprengel.

[†] Qui tabe pulmonari laborant, consanguineos suos facile inficiunt si cum illis consuetudinem habeant.—(*Ramazzini op. omnia*, 791.) Manet tamen de contagio suspectus morbus phthisis pulmonalis quod evidentia exempla, quorum ingentem possem adferre catalogum, demonstrant.—(*Hildenbrand, Ratio Medendi*, i. 159.)

[‡] Istruzione al publico sul contagio della Tisichezza, scritta per sovrano commando della facolta medica del supremo magistrato di Sanita di Napoli. Napoli, 1782. See also Zimmermann von der Erfahrung, p. 389. Similar ideas prevailed also in Germany, as may be observed in the work entitled Goettingen, geschildert von Dr. K. F. H. Marx, p. 325, Note 6. Jos. Frank, Praxeos medicæ Universæ Præcepta, Vol. ii. p. 509. Burserii Instit. Med. Pract. Vol. iv. p. 54.

[*] Hist. Natur. Indiæ Oriental, cap. xix. de Tophis gummatis, et ulcerationibus endemiis in Insula Amboyna et Moluccis præcipue; quas nostrates *d'Amboynse Pocken* vocant.

[†] De Morbo in Europa pene ignoto, quem Americani vocant yaws.

Though it is said that pains of the bones are among the first symptoms of yaws, this is not constant; they are rather sequelæ, and may truly be called *Dolores Osteocopi.*[*] The precursory pains nearly resemble those of febrile complaints, particularly exanthemata; but as this disease is frequently passed through in childhood, when it is milder in its symptoms, the precise mode of attack is less noticed. Another very common error, not unfrequently committed, is in making a distinction between yaws and pians,[†] as if different diseases, though only stages of the same malady. Neither do yaws ever change, as asserted by some, into the *mal rouge de Cayenne,* so named from the copper-coloured spots which appear on the skin devoid of feeling, and are considered as one of the primary symptoms of tubercular lepra. Dr. Springel[‡] observes, "a remarkable kind of leprosy was known in the middle ages, the *Nakha* of Abelkasem, or the Alopecia of Vitalis de Furno and others. Large red vesicles or tubercles appeared in the face; the gums swelled and bled; and everywhere spongy bleeding ulcers broke out, which destroyed skin, flesh, and bones. The *mal rouge* of Cayenne is a remnant of this disease." Bajon refers the *mal rouge* not to elephantiasis, but to the pians in its most obstinate form, which he also distinguishes from yaws. But it is clear from the great deformity of the face, occasioned by the prodigious thickening of the skin, the tubercles of the lips, ears, &c. that it belongs to elephantiasis, and to that variety of it called leontiasis. The radesyge, spedalskhed, of Norway, liktraa of Iceland, and the disease of the Crimea, acknowledge a similar origin.[§] Professor Haase distinguishes between yaws, *sycosis,* and pians, *thymiosis,* which latter he considers to be a more obstinate disease, and more localised than yaws. Although he quotes no authority, he asserts that the pians are originally endemic only in one district on the coast of Guinea, the kingdom of Sanguin, which I presume is meant for a small portion of coast south of Sierra Leone, and bordering on what is called the *Kroo* coast.[*] The disease of yaws is still imperfectly known, not owing to want of opportunities for observation, but perhaps to the loathsomeness of the complaint, and the risk of watching it too narrowly. To aid the inquiries of future observers, I subjoin some queries given to me by my learned and excellent friend, the late Dr. Willan. "Is the yaw pustule a small hard knot inflamed around, and slowly suppurating? How long is it in breaking? Does the fungous flesh in rising force off the primary crust or slough? If it does not itself suppurate, how can it be covered with a slough or scab? Does the primary ulceration surround it, and communicate the crust all over it? But how can it reach the top of the fungus? Is it through pores in its substance? What part does the disease appear upon? and which are generally first affected? Do any symptoms of general disorder precede or attend its eruption? What are the symptoms or sequelæ when it proves fatal? Does it affect the throat, nose, or lips? Is there any specific time in which a single pustule goes through its course? Is there any difference of appearances in children and adults? At what age is an infant ever infected?"

As inoculation has been often practised with success, and found to communicate a milder and more tractable disease, a few well narrated cases would no doubt be very satisfactory.

The intrepid African traveller, Hornemann, whose untimely fate I fear we must now deplore, notices the venereal disease as occurring only once during life in the same subject, which undoubtedly refers to yaws. Brown also, in his travels in Africa, says, "those who have been once infected and fully cured, are, it is said, in no fear of reinfection." This he describes as lues, but it evidently belongs to yaws.

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[*] Conradi Grundriss d. bes. Pathol. u. Therapie, ii. 826, is wrong in asserting that these pains affect only Negroes, and not Europeans. The symptoms are the same in both, though the Negro is most likely to suffer in consequence of neglect or improper treatment. I knew a European in Africa, a slave trader, who was dreadfully tormented with pains of the bones, in consequence of yaws. Bertrandi likewise, in his excellent work on contagious disease, is wrong in asserting, page 73, that Europeans are more difficultly affected with yaws than Negroes; and still more in affirming, p. 105, that a man, being infected with yaws, prevents the disease from breaking out by removing to a temperate climate. In this respect no difference occurs between yaws and syphilis.

[†] Frambœsia Guinensis, et Frambœsia Americana, Sauvages, Ed. Daniel, v. 205.

[‡] Handbuch der Pathologie, iii. 577. Harless, Handbuch d. aerzt. Klinik. ii. 507.

[§] Consult Sprengel Beytr. z. Gesch d. Medizin. Jos. Frank Prax. Med. Universæ Præcepta.

[*] Haas Ueber die Erkenntn. u. cur. d. Chron. Krankh. Vol. iii. p. 386. Dr. Ludford also, in a very good essay on this subject, (Diss. Inaug. de Frambœsia, Edin. 1791,) entertains the same strange opinion of yaws being *endemial* only at Sanguin. "In ista Africæ regione, quæ *Gangines* vocatur, *endemice* grassari videtur, omnemque ætatem, potissimum vero infantilem, puerilem, ac juvenilem, adoritur.—Contagium a Ganginibus in omnes Indiæ occidentalis insulas, et in Americam, in quibus abmodum frequens est. invectum est."—"In that part of Africa called Gangines (Sanguin?) it appears to prevail endemically, affecting every age, but chiefly infancy and youth. The contagion has spread from the Gangines to all the West India Islands and America, where it is extremely common."—Conradi Pathologie und Therapie, Vol. i. p. 821.

Professor Sprengel, in a very important Essay* on the probable origin of syphilis on the south western coast of Africa, endeavours to prove that yaws was known during the middle ages, and often confounded with symptoms of lues,—an opinion entertained by Haller, who says, "omnibus computatis, lues venerea videtur degeneratio esse morbi *yaws* Americæ et insularum potissimum Antillarum indigeni in iis insulis etiam nunc superstitis, qui pariter tubercula per universum corpus exigit."† Numerous objections offer themselves to this opinion; neither is it at all probable, that a cyclic disease, like yaws, which runs a certain course, and admits of a natural cure, can be commuted into a perennial disease like lues, which terminates only with the destruction of the subject it attacks. One of the learned professor's arguments is, that the ancients might be supposed to be acquainted with yaws, if we could only prove that they had any communication with the south-west coast of Africa, where he supposes yaws was endemic.‡ The Carthaginian Admiral Hanno, who lived in the beginning of the fifth century before our æra, probably during the reigns of the first Xerxes and Darius Hystaspes, is the first whom we know to have discovered this part of the coast. He planted a Punic colony in the Island of Arguin, and advanced as far as Cape Palmas, in the kingdom of Sanguin, and perhaps as far as Cape Three Points. We have, indeed, no account of any trade with this part until the fifteenth century, when Pedro de Cintra, in 1462, discovered Cape Mesurado. But long before this period it might have been known to the Greeks, Romans, and Arabians, by the trade carried on with the western coast, through the great marts in the midst of Africa, Moorzook, Timbuctoo, Galam, Kaschna, &c. Sprengel next considers the early appearances of lues, which often showed itself as an epidemic, (in which, if he be correct, it totally differs from yaws,) independent of coition, and often proved speedily fatal on the first attack. In process of time, since 1497, it has become more mild, showing itself rather as a cutaneous disease; until finally, in 1520, being combined with gonorrhœa, it became much less dangerous. From the number of quotations given, one may be selected as particularly curious, from Scanarolus, to prove that lues infected without coition, though little consonant with our present creed. "Nos tamen vidimus et omnes hoc sciunt, quod et plurimi, atque puellæ virgines, atque etiam senes, qui nunquam coitum tentaverant, cum hoc morbo correpti sunt, primum in pudendis cœperunt pati." The oldest writers compared the disease with small-pox, or *Herpes miliaris*, or safathi,* sometimes with the berry-like fungi, frambœsia, or with leprosy itself. Ali ben Abbas, (son of Abbas) commonly called Hali Abbas, who, in the tenth century, was physician to Mostanser, khalif of Bagdad, describes the safathi as a malignant ulcer, covered with a thick tenacious matter, of an infectious nature, which chiefly appears about the back and face like large pocks, equally contagious with them, but not accompanied with so violent a fever. The disease, he adds, occurs frequently in Africa and India, and terminates in violent pains of the bones. It produces also a malignant ulcer on the soles of the feet, which he calls *vena saniosa*, but which Sprengel supposes to be what is termed crab yaws. This he considers as the first trace of yaws which we have on record, though he thinks it is still more clearly described by a writer who flourished a short time after Ali, (born about sixteen years before Ali's death,) the celebrated *Scheikh Reyes*, (prince of physicians,) Ebn Sina, commonly called Avicenna. He describes the disease as a collection of ulcerous or varioloid pustules, itchy, but rather attended with pains of the bones, and with no violent degree of fever. When these pustules are moist, he calls them by a Persian word signifying a *fat root*, which excites a suspicion of the lardaceous base of the ulcer. A very large pustule or *mama yaw*,[*] he names from its elevation, or resemblance to unripe dates. Another appearance of the disease, which occurs on the soles of the feet, *crab yaws*, he compares to the fruit of the turpentine tree, describing it as a callous ulcer with fungous excrescences and varicose distention of the veins.

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* Beytrage zur Gesch. der Medicin. 3 st.

† In support of the opinion that yaws and lues were somehow intermingled, or that lues is an hybrid disease, and arose from a mixture of yaws and leprosy, Professor Sprengel remarks, that the leprosy was very prevalent among the Spanish Jews, who were banished from Spain in 1492 into Africa, where they might become infected also with yaws; for it appears that these unfortunate people, among other equally unfounded charges, were also accused of spreading the venereal disease. The hypothesis of Harless, that the yellow fever originated from a union of the endemial or tropical fever, with yaws, is quite untenable.

‡ Instead of confining the disease to an insignificant corner of Africa, Sanguin, for which no good authority can be adduced, if the learned Professor had asserted, what is at least a very probable conjecture, and which cannot be refuted, that yaws occurred at an early period in all parts of Africa, though not endemially, he would have succeeded better in his ingenious speculation.

* Safathi was originally applied to the αχωρες of the Greeks, and was first used by Jahiah ebn Serapion in the ninth century; but Professor Sprengel, who derives safathi from a Hebrew root, signifying hill or rock, rather understands it as defined by the Persian writers, Ali Abbas and Ebn Sina, and thinks Gentilis da Foligno must hint at this, when noticing *variolas magnas chronicas*, in Africa without fever. Lues appeared originally in the form of this safathi, or *variola magna;* Le Maire names them *gros Boutons sans fleur;* in Germany *groote bladder;* and hence the French name la grande verole.—Beytrage zur Geschichte der Medicin. 1. B. 3s. stuck.

Although the two diseases, yaws and lues, be essentially distinct, there is a variety of the latter known little more than thirty years ago, called Scherlievo,[†] which in its strawberry-like fungi bears some resemblance to yaws. Frambœsia Illyrica or the Scherlievo disease, is so called from the place in Italy where it first attracted notice. The natives of Scherlievo maintain that the disease was introduced there in 1790 by four soldiers and two women returning from the war in Turkey. From this place it spread along the coast, from Fiume and Buccari as far as Novi, until the year 1800, when it fixed the attention of the Austrian government. The disease is very common in Illyria, where it always arises from infection, though seldom from coition. The mouth and throat are first affected with slight inflammation, succeeded by hoarseness; small pustules like aphthæ appear on the inflamed parts, which break and pour out a corrosive ichor, leaving round ash-coloured ulcers, with hard, dark red edges, which in time destroy the neighbouring spongy bones. The pain in swallowing is trifling, but the inflammation often spreads to the larynx, occasioning *phthisis laryngea*. Sometimes pains of the bones precede, which diminish or disappear when a pustular eruption shows itself of copper-coloured spots, or sometimes of a violet colour, that discharge a fluid forming crusts, which, when they fall off, leave a yellow mark or ulcer. Tubercles also appear, which pour out a viscid matter forming crusts. Occasionally, fungi arise like strawberries or mulberries, *carnes luxuriantes moriformes*, which suppurate and spread, destroying the neighbouring bones. These are chiefly seated on the hairy part of the head, forehead, ears, pudenda, abdomen, and inside of the thighs and legs. Condylomata occur round the anus. There is tumour of the scrotum or *mons veneris*, and ill conditioned ulcers arise on the soles of the feet. The disease yields to a mercurial treatment, in which the corrosive sublimate shows itself most active in arresting the progress of the disease, though it is said not to be permanently successful. The Scherlievo disease differs from lues, by remaining stationary for several years when left to itself, or even admitting of a natural cure. From sibbens the scherlievo disease differs, in being less destructive to the parts affected, and not so much attended with glandular affections. Dr. Ludford is inclined to consider yaws as allied to *sibbens* or *sivvens*, —a disease met with in the northern parts of Scotland, (sivven being in the Highlands a common name for a wild rasp.—Gilchrist, Ed. Lit. and Phys. Essays, iii. 163.) which he terms Frambœsia Cromwelliana, because it is said to have been introduced by Cromwell's army into the Highlands. But Dr. Ludford contradicts himself; for in his accurate diagnosis, he sufficiently points out the total difference of the two diseases. Besides, it may be asked, from whence did the Protector's army bring the disease?

The frequent mention of plague and pestilence by all old historians might excite surprise, did we not reflect that every disease, especially if accompanied with fever, which proved very commonly fatal, was termed plague. In Gruner's[*] learned work we have many curious instances of epidemic diseases, explained according to the prevailing superstition of the times. It is probable many of these alarming epidemics were merely instances of typhus; and Hildenbrand accords with Haller in considering the Athenian plague of Thucydides to have been only an anomalous and very malignant typhus, [*u. d. ansteck. Typhus*, p. 22.] Notwithstanding the number of authors who have written upon this subject, and Ploucquet, in his laborious[†] work, gives a list of more than 800 writers upon plague, no certain diagnostic of the disease has yet been pointed out. Hence the justice of the remark of Chenot, "Omne quod habemus signum in serie et congerie præcipuorum saltem symptomatum consistit, quæ simul non existunt, nec eadem in singulis inveniuntur."[*] [†]Hence, in every instance, at the commencement of an epidemic plague, we find violent disputes have arisen respecting the nature of the disease, which, for the most part, was considered as some variety of common fever occasioned by atmospheric distemperature. Of this, many instances are recorded. Canestrini notices the plague which broke out on the island of Bodrogh in Hungary in 1770. A physician who pointed it out to the magistracy, was rewarded for his acumen by a threat of the gallows, if he persisted in his assertion; another, more supple in his conduct, termed it an epidemic scurvy, until seventeen persons dying in one house proved the correctness of the first opinion. The bitterness of party in persecuting men for their opinions is well shown in the instance of Thomasius, who was driven from Leipsig to Halle, where, in 1692, he fortunately proved instrumental in establishing that justly celebrated university. But the most striking instance of this disagreement in medical diagnosis is recorded in the history of the plague at Venice in 1576.[‡] The two celebrated professors Mercurialis and Capo di Vacca, being sent for from Padua, pronounced most decidedly that it was not plague; but the mortality increasing in an alarming degree, the two professors were glad to escape as privately as possible to avoid the fury of the mob. The same occurred in the plague at Marseilles in 1720, when the professors of Montpellier sent there declared that fatal disease was not plague. In the above instances, and in numerous others, the disease was regarded as common contagious fever, and treated as such; until the appearance of bubos or petechiæ, and an increased mortality, induced them to apply to it the name of plague. One of the best definitions of an early date which I have seen of plague is given by Bassianus[*] Landus: "Pestis nil aliud est quam lues grassans in multos, aut in una, aut in pluribus regionibus, cum diris symptomatibus, juncta cum febre pestilenti, aut hecticâ, aut putrida." Speaking of the petechiæ which occurred, he remarks, "illa exanthemata siue impetigines non sunt semper eiusdem coloris, nec semper manifesto apparent." A contemporary writer, Francesco Frigimelega,[†] describing the same plague, which he asserted always arose from contagion, defines a pestilential disease to be one which almost always proves fatal, and is contagious.[‡] To guard against the contagion, he adds, "non si appropinquino a lo ammalato se non quando bisogna, et non rifiarino incontro. Guardinsi anchora dalli loro Panni." Such was the general terror inspired by this disease, that every peculiar appearance in the atmosphere, or any natural occurrence different from the usual course of things, was considered as an infallible indication of a future plague. Diemerbroek, in his learned and interesting work, gives many curious instances, which were considered by the terrified multitude as indisputable warnings. None were, however, more extravagant than what seems to have been regarded by them as a species of second sight among children; undoubtedly a proof of a strong phlegmatic temperament. Gallus Tridentinus observes: "Pueri ab intelligentia non errante ducti, presbyterorum modo cantant, alios vivos pueros sepelire simulant, hanc universam animantibus perniciem futuram præsagientes." Mercurialis gives a similar account, and Forestus remarked a like presage to announce the plague at Delft: "Pueri antea colludentes, scrobes, instar sepulchrorum faciebant, et feretra in humeris, ut vespillones protabant; et quanquam hæc et similia ab aliis pro portentis, ab aliis pro nugis habeantur, tamen sævissima pestis subsecuta est." The learned author, Diemerbroek, firmly believed that children, engaged in these plays before a certain house, indicated the death of three children from small-pox, which occurred in it about two months afterwards. Diemerbroek, though influenced by the superstitions of his age, was a man of great learning and unaffected piety, and acted as a truly Christian physician towards his townsmen during that dreadful plague which he describes so well, and for which he was rewarded with cool indifference by his sordid countrymen. But he has left to posterity his feelings on this subject.*

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[*] The mama yaw is a pustule or sore which has increased more than the others, corroding the surrounding parts, from which a livid kind of fungus arises, not painful, but resisting for a time every application. Nielen (Verhandlingente Haarlem, deel xix. st. 2. p. 135, in sammlung auserlesener abhandl. z. gebr. pract. aerzte.) observes, this kind of yaw (*lues mater*) always appears on the part where the disease has been received, whether by wound or ulcer,—an assertion which appears to me very doubtful. This writer is incorrect in asserting yaws to be hereditary, and that only such *whites* contract the disease, without infection, whose parents have previously had it. Harless Handbuch der aerztlichen Klinik, iii. p. 507. 1826.

The Medicinisch-Chirurg. Zeitung for 1821 gives a very copious and satisfactory account of this disease.

[†] Giornale di Medicina, 1812, par Brera—Nuovi Comment. di Medicina, par Brera—Saggio sulla Malattia del distretto di Scherlievo, di Claudio Ant. Bovi. Richter die specielle Therapie, vi. 414.

[*] Nosologia historica ex monumentis medii ævi lecta, Jena, 1795. The cure performed by the Doctor sent from Vienna (Weynne,) by hanging his royal patient up by the heels, with his breast supported by a cushion on the ground, would not probably be recommended by an archiater of the present day. P. 129.

[†] Literatura Medica Digesta. Tubingæ, 1808.

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[*] Tractatus de Peste. Vindob. 1766, p. 91.

[†] Pestis diagnosis maxime ex ejus contagio haurienda Dr. Wolmar, however, notices streaks of blood in the inner canthus of the eyes, which he considers as diagnostic of the disease, and by attending to which, he was enabled, in some obscure cases, to foretel the disease. The "lingua quasi calce obducta" has been very generally remarked.

[‡] Muratori, relating this circumstance in a tone rather sarcastic, says, "Chiamati colà da Padova Girolamo Mercuriale e Girolamo Capodivacca, pubblici lettori, e gran di *Barbassori* dell' arte medica, a spada tratta sostennero, quella essere influenza epidemica, e non vero contagio, contro il parere de' medici Veneziani. Cagion fu il credito di amendue, che non si prendessero le più rigorose precauzioni contra di cosi orrendo malore, finche si giunse a vedere tutta piena di morti quella gran città. Se scornati non fuggivano que' due satrapi della medicina, fu creduto, che il popolo li avrebbe sacrificati al loro furore." Annali d'Italia, Vol. xv. p. 8. On this subject some doubt is entertained by Sprengel, Gesch. der Arzneik, 3 th. p. 131. A contemporary writer, Gio. Battistà Susio, says the above professors denied it was a pestilence, (che affligena alcuni pochi in Venetia;) and Susio also declared that it did not merit that name, because it did not afflict many at the same time, nor persons of all ranks. p. 8. Libro secondo del conoscere la pestilenza. In Brescia, 1579. Waldschmidt de sing. Pestis Holsaticæ, Haller Disputationes, v. 549.

[*] De origine et causa Pestis Patauinæ, anni 1555, published during that year at Venice.

[†] Fr. Frigimelica, Consiglio sopra la Pestilenza in Padoua dell' anno 1555.

[‡] Pestilenti chiamo quelle che ammazzano et danno la morte quasi sempre, e sono contagiose. Conradi, Handbuch d. allg. Pathologie, 57.

Among the various contradictory opinions respecting plague, none appears more strange than that doubts should exist with regard to its contagious nature; yet these doubts have often been entertained by men of undoubted talent, and, it must be confessed, that many strong arguments have been alleged to corroborate their opinion. Though we cannot deny the contagion of plague, yet it seems fully proved that the danger of its communication is much less than has been apprehended. Larrey† says, when the disease is slight, there is little or no danger either in touching the patient's pulse, "du bout des doigts;" or in opening bubos or carbuncles, or touching small portions of his body or his clothes, "par de petites surfaces:" nor even in going into his apartment if well ventilated. Dr. L. Frank,‡ a contagionist, in a work on this subject which deserves to be seriously read, gives many striking instances of the sudden disappearance and occasional inertness of plague contagion. Among others, he observes that the French army arrived at Cairo in 1798, only thirty days after the cessation of a severe plague; and though in the hospitals the beds, clothes, &c. of the Mamalukes were made use of, not a single case of plague occurred during that year. Upon this subject Dr. Wolmar§ informs us, "that about the summer solstice the south winds and sirocco, which had prevailed during the time of the plague, ceased, and were succeeded by north and north-east winds. A strong dew fell every night, and the disease disappeared. The Europeans, many Christian merchants, and the Cophts, now opened again their inclosures, and many days were passed merely in visiting. The Turks also visited, to congratulate each other, and to renew their commercial ties. The Europeans and native Christians paid visits of condolence to the Turks in their houses, on which occasion they seated themselves without dread upon sofas covered with cotton, which but a few days before would have infallibly communicated to them the plague, though at this time such an occurrence was not heard of, —a sufficient proof how great the influence of the *atmosphere* is in this disease." Moreover, soon after the battle of the Pyramids, Bonaparte and his staff occupied the quarters of Murad Bey, in which, a short time previously, sixty men had died of plague, yet none of the French suffered from contagion. Pugnet informs us also that Bonaparte, to diminish the fears of the soldiers, touched bodies infected with plague. Upon this subject Desgenettes more particularly says, "Se trouvant (le general en chef) dans une chambre etroite et très encombrée, il aida à soulever le cadavre hideux d'un soldat dont les habits en lambeaux etoient souillés par l'ouverture d'un bubon abscedé."*

The sudden disappearance of plague in Turkey and Egypt is a fact acknowledged by all parties, and has given rise to a saying among the Franks, *Saint Jean venir, Gandoufandar.* The learned Professor Omodei,† one of the most zealous defenders of contagion, does not deny the above fact, but explains it by asserting, that it is owing to a diminution or want of susceptibility, (difetto di suscettivita negli individui) in the subjects. The active powers of contagion always remain unchanged, he asserts, and admit of no diminution. But how the susceptibility of an entire nation for disease can be so exactly graduated, as at one time to be suddenly excited, and again equally as suddenly extinguished, appears to me inexplicable. We had much better confess our ignorance of the cause, though we must allow the fact, of the sudden disappearance of plague. The strongest argument which the contagionists can oppose to the above, is, in my opinion, the perfect immunity which those persons enjoy who observe a strict seclusion during the prevalence of a plague epidemic. This was particularly noticed in the great plague‡ at London, where those who took refuge on ship-board escaped the disease. We may here be allowed to remark, that those who have denied the contagious nature of plague cannot be accused of a wish to mislead others, or to make themselves conspicuous, merely by supporting a novel opinion. They have generally been the first to expose themselves to the danger, and in too many instances have fallen victims to, what I conceive to be, an erroneous opinion. But would it be proper to stigmatize the memory of such men as having been rash and unthinking? Or would we patiently bear aspertions to be thrown upon the character of our countryman Dr. Whyte, who, in his attendance upon the sick of contagious diseases, discharged his medical duties with a zeal and courage that justly entitled him to the gratitude of all who knew him. He fell, it is true, a victim to what the cold-hearted might term want of prudence; but it might, perhaps, have been better for the public, if every physician had, with equal honesty, tested his peculiar notions upon himself, before he practised them upon his patients. Of one martyr to the cause, however, it would gratify me much to see the memory rescued from the supercilious contempt which has been thrown upon it. I allude to an Italian physician, Dr. Valli, a name not unknown to science, and deserving of a better fate. Professor Thomassen à Thuessink of Groningen, in his very able treatise on contagion, stigmatizes Dr. Valli as "dissipated, depraved, or abandoned." In the German translation by Dr. Gittermann, he is called "den ruchlosen Valli!"[*] a very harsh term to be applied to deceased merit, and very unbecoming of the learned professor. Dr. Valli appears to have been a man of a cultivated mind, and overflowing with ardour for his profession. Being an enthusiastic admirer of vaccine inocculation, and imagining that the prevalence of natural[†] small-pox and plague was influenced by a kind of mutual repulsion between the two diseases, he flattered himself with having discovered a specific for the latter disease in the vaccine matter. To prove the truth of his opinion he went to Constantinople and shut himself up in a pest-house, from which he narrowly escaped with life. He made many experiments by inoculating with mixtures[‡] of small-pox, vaccine and pestilential matters, which he promised to publish, but which are now, it is to be feared, lost. We have the respectable testimony of Dr. Granville, who was present, that Dr. Valli inoculated himself with impunity with a mixture of vaccine and plague matter; and though some affected to raise doubts respecting the real nature of the latter, yet, if we may judge from the determined courage and sanguine character of Valli, they seem to have been unfounded. In consequence of these trials, a nostrum was advertised for sale as a preventive of plague; but it is not clear that Dr. Valli had any concern in it, at least not from sordid motives. But an apothecary at Constantinople was accused of preparing, as a specific for plague, an ointment, composed, as it was pretended, of vaccine and plague matter, to be used by such as put faith in Dr. Valli's supposed discovery. The apothecary was at length denounced and put to death, probably in the usual way, by strangling,—a mode of punishment too lenient for such a delinquent. A more severe method ought to have been adopted, the most dreadful of all to a medical man, that of being compelled to swallow his own remedies. After Dr. Valli's return from Constantinople, he took a voyage to the West Indies, to bring himself in contact with yellow fever, whose contagious nature he denied. Unfortunately, however, he caught the disease, and died only a few days after landing at the Havanna. The medical society of that place, much to its honour, attended the obsequies of this extraordinary man, and erected a monument to his memory.[*] A republication of Dr. Valli's works on plague, now out of print, with a biographical sketch of the author, by some of his learned countrymen, could not fail to prove an acceptable and interesting present to the medical world. In a moral point of view we all err, though each in a different way; but in a professional point of view, surrounded as we are with uncertainty and doubt, what man can tell the extent of his own errors? Amidst the obloquy thrown on the memory of this zealous inquirer, it is gratifying to find that the celebrated Omodei with more justice observes, "a tutti è noto che il valoroso Valli, ricco d'Esperienza su di questa materia, sosteneva non essere contagiosa l'aere respirata dagli appestati."[†] And Hildenbrand, a name which ranks high in medicine, speaks of "the celebrated Professor Valli of Mantua, well known as an accurate observer."[‡]

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* De Peste, p. 84.

† Mémoires de Chirurgie Militaire.

‡ De Peste, Dysenteria et Ophthalmia Ægyptiaca. Vindob. 1820.

§ Abhandl. ueber die Pest. 174.

* Hist. Med. de l'Armée d'Orient, p. 49.

† "A tutti è noto come cessata un epidemia contagiosa, il morbo non ripullili quantunque non siasi praticato l'espurgo generale delle Masserizie e robe che hanno potuto ricevere il contagio."—Annali di Medicina, Vol. xxiv. p. 226. How does the above agree with quarantine regulations?

‡ "Nous avons remarqué que ceux qui se renfermoient sains chez eux, en sortoient sains.—Chicoyneau Traité de la Peste, 195. Gutfeldt Einleitung in die Lehre v. d. anstek. Krankheiten.

In early times the prevalence of any unusual complaint was commonly referred to idle tales of poisoning; and Livy[§] libels the sacred character of the Roman matrons by such an accusation. In more modern times this reproach has been usually appended to religious disputes; and at the beginning of most public calamities, especially plague epidemics, the unfortunate Jews seldom escaped their share of persecution, of which too many instances are related by the older historians. Diemerbroek mentions some unfortunate wretches, compelled by torture to accuse themselves of smearing the doors of houses, &c. with a putrid compost, chiefly obtained from bodies dead of plague. Paulus Jovius,[*] an Italian writer of the sixteenth century, describing the siege of Naples, though he expresses some disbelief in it, refers the great mortality of the besiegers, evidently caused by a bilious remittent fever arising from marsh miasma, to the currupt state of the air, and to the water being poisoned by certain herbs infused in it by the Moors and Jews. Those who drank of this water, he adds, had swellings of the belly and legs. Their faces became yellow, thin, and so much shrunk, that with difficulty the soldiers could recognise their friends. The sickness began in the camp on the 15th of July, and spread from the soldiers to the officers, who, alarmed for their safety, quitted the place. The only well authenticated instance I have heard of an attempt to communicate plague to an individual by pestilential matter, occurred at Tunis in 1795.[†] A Turkish physician, excited by envy, collected a quantity of pestilential matter in a rag, and put it secretly into the pocket of M. Gersonius, a Swedish surgeon. This was not discovered until three days after; when searching for an instrument, he got it in his hand. Without thinking of the consequences, he threw the rag into his garden, where it was smelled at by his dog, which in four or five hours became sick. The dog was well rubbed with oil, notwithstanding which, bubos appeared on the second day. They were opened as soon as maturated, and the dog recovered. Gersonius, with a very proper spirit, in order to have an opportunity of studying the nature of plague, refused quarantine quarters, which were offered to him; and attended between 600 and 700 patients in that disease, of whom 150 had bubos. He appears from his letter to have escaped unhurt, though, so far from shunning contact with the sick, he had patients who died in his arms, whilst he was administering their medicines.

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[*] *Ruchlos*, impius, perditus, profligatus. Sine spe pænitentiæ, sive resipiscentiæ. Ruchles leben, perdite vivere. Frisch, Teutsch-lat. Worterbuch. In Dutch, Zedelijk slecht, d. i. heilloos, rockelocs, bij voorb. Homo. Cic. Arch. 6. tu profligatissime homo. Schelleri Lexicon Latino-belgicum, curante D. Ruhnkenio.

[†] Each of these epidemics recedes as the other appears. The time when the plague shows itself at Kairo and its vicinity, is called *chamsin*, an Arabic word signifying fifty, because at this period the sirocco and south winds usually blow for fifty days. The proper mode of reckoning these fifty days is to commence from the vernal equinox, being the time when the plague appears in Constantinople, Lesser Asia, and also in Egypt. But the Egyptians from the Easter of the Greeks, which falls eleven days later than that of the Latins; neither do they trouble themselves whether the feast occurs early or late, in March or in April. The small-pox prevail at Kairo every year before the chamsin begins. When they are mild, not much is to be apprehended from the plague, even although a plague patient should be introduced into Egypt from the neighbouring countries. But if the small-pox be malignant, much diffused, and occasion many deaths, the plague also, when introduced by contagion, makes great havoc.—Wolmar ueber die Pest. p. 12.

[‡] Med. and Chirurg. Review, Vol. xi. lxxiv. London Med. and Phys. Journal, Vol. x. 475.

[*] For an account of Dr. Valli's death, see Med. Chirurg. Zeitung for 1817, ii. 125.

[†] Peste di Smirne del 1784.

[‡] Ueber d. a. Typhus, p. 76.

[§] Hist. Rom. L. viii. c. 18, he properly adds, "Prodigii ea res loco habita, captisque magis mentibus, quam consceleratis, similis visa."

Why plague has been referred to the exanthemata is not very clear, unless from the occurrence of carbuncles[‡] and petechiæ, neither of which are of constant appearance; indeed, the latter more frequently accompany typhus. Whether "the tokens, botch, purple swellings," belong to petechiæ or carbuncle is not easily determined. The *spots* or *purples* when punctured emited a little blood; the tokens were rather hard and insensible when punctured. Defoe[*] describes them to be "gangrene spots, or mortified flesh in small knobs, hard as a piece of callus or horn," and certain forerunners of death. Carbuncle is a species of furuncle of a malignant form, which speedily terminates in gangrene. Sometimes it appears in a vesicular form, like those which precede gangrene, or like pemphigus, containing a yellow or dark coloured fluid. At first it has not an inflamed base, but about the second day the skin becomes red and tumefied, but depressed in the centre. The vesicle gradually increases to the size of a hazel-nut, or even to that of an egg, before it bursts, showing a black eschar or slough, which, with the inflamed margin, continues to increase until suppuration be fairly established between the dead and living parts.[†] Orræus[‡] says, "Carbunculus siccus cum sphacelo senili—maximum similitudinem habet." Persons of a fat spongy habit are most subject to carbuncle.[§] It appears chiefly on the back and loins, often on the breast, abdomen, or extremities, but not on parts covered with hair. It differs from bubo in always requiring some degree of fever to produce it. The treatment is precisely the same as that of gangrene, to increase the tone of the system, and thus enable the living parts to throw off the dead. The practice of scarifying, practised very generally, is reprobated by the best writers. Diemerbroek, with his usual humanity, remarks,—"et semper carbunculos, quo mitius tractabantur, eo citius curatos fuisse."[*] When not numerous, they probably have a similar effect to those mortifications on the sacrum and glutæi in typhus which very commonly prove a crisis to the fever.[†] Dr. Schneider,[‡] a very accurate observer, remarks, that furuncles and ulcerations appearing in typhus, have usually good effects, showing probably a disposition in the disease to change from a general to a local affection; and in plague, when neither bubos nor carbuncles occur, the disease is usually fatal.[§] Further, in typhus, swellings of the parotids and other glands frequently prove critical, and relieve all the bad symptoms. This was particularly observed in the Dresden epidemic of 1814. In plague, bubo sometimes affects the gland itself, and destroys it, but more frequently the cellular substance surrounding it is only affected,—an observation made by Larrey and others. Dr. Grohman has seen all the salivary glands affected with bubo except the sublingual; and of the conglobate glands, he has observed all but the *glandulæ popliteæ* to be susceptible of inflammation.

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[*] The original work was printed at Strasburgh in 1556, about four years after his death. In the Spanish translation printed at Valencia in 1562, it is said, "Algunos soldados de extrema malicia, assi de los Espanoles que eran de genero Moriscos, como de los Tudescos que eran de genero de Judios, con cumos de yeruas venenosas, echando encima mucha simiete de Lino, y Trigo gastado y corrompido, havian inficionado los Pozos, mas cerca del Real de los Enemigos, y todas las cisternas."

[†] Schwedische Annalen v. Med. u. Naturgesch. von Rudolphi, Vol. i. p. 53. 1799.

[‡] Schmalz Diagnostik in Tabellen, p. 228.

A similar work could not fail to be useful to the English student.

[*] Defoe, p. 225. Hodge's Account of the Plague, 133, 137.

[†] Galen give a very accurate description of carbuncle, Vol. vii. p. 719, of the beautiful edition of the Greek physicians now publishing by professor Kühn of Leipsig. (Medicorum Græcorum Opera quæ extant, Lipsiæ.) Pliny, lib. xxvi.—iv. first introduced from Gallia Narbonensis; called *charbon provençale*. Commentar. de rebus in Scientia Naturali et Medic. gestis, Vol. xxiii. p. 396.

[‡] De Peste, p. 98.

[§] Grohman. In this disease, Lodovico Locatelli, Trattato della Peste, &c. Padoua 1630, says, "me pero piac grandemente l'estrattione dell' inguinaglia con il ferro appropriato a questo, benche sia *un poco doloroso*." When an anthrax supervened, he recommended a fontanel to be made upon it. He concludes, "ma sono diuoto del fuoco, con il quale si sono sanati dall' anguinaglie tutti li apestati nell' esercito dei Greci sotto Troia intorno gli anni del mondo 2800, li quali sono amorbati per la esalatione velenosa della terra." Another author on the treatment of bubos, says, "Alcuni li danno el focho e scotanlo con la candela accesa discolandoli suso la cera, e questo non e ben facto perche la cera prohibisce la transpiratione de li humori. Ma meglio seria dargli el fuocho con lo ferro infocato o vero con auro."—Celsus de Medicina, Ed. Targæ, p. 258.

Hippocrates considers bubos in fevers to be bad;[‖] and Hildenbrand remarks that the early appearance of enlarged parotids in typhus is dangerous (p. 170.) Though swellings of the glands are not always evident, it is no evidence that they do not exist. If the parotids be accurately examined, they will be found in some degree affected with *engorgement* or pain, producing difficulty in opening the mouth, dulness of hearing, noise and buzzing in the ears. There is also a frequent discharge from the ears on recovery from typhus.[¶]

Petechiæ, though they have occasioned plague to be ranked among the *exanthemata*, are not, strictly speaking, of the eruptive kind, being merely effusions under the skin. They are by no means constant attendants of plague any more than of typhus; and when they do occur, they are accidental symptoms, not in the least changing the nature of the fever. Yet Professor Omodei has attached a degree of importance to them to which they are not entitled. To support his opinion, that all contagions are of a permanent and unchangeable nature, and of foreign origin, he instances petechial contagion,[*] as he terms it; and which, with his usual erudition, he endeavours to prove was unknown to the Greek, Roman, and Arabian physicians. A contrary opinion, however, has been held by men of equal learning and accuracy of observation, of whom I shall only notice here the names of Gruner[†] and Willan.[‡] Whether the slight notice of Hippocrates[§] refer to petechiæ or not, is perhaps not quite clear; though we may observe, that the ancients were far from being careful in discriminating cutaneous eruptions, but usually comprehended them all under the general term *exanthemata;*[‖] and as the learned editor of the Annali di Medicina allows that petechiæ were confounded with morbilli, even so late as the end of the sixteenth century, it is no wonder if in earlier times they should be little noticed. Even until very lately a similar negligence has occurred with respect to morbilli,[¶] rubeola or roseola, and scarlatina, which have been occasionally mistaken for each other, especially the two latter.[**] Hence may have arisen the supposition, that measles and scarlatina appear more than once in the same subject, or at least have made the exceptions to the general rule more numerous. Omodei endeavours to fix the first appearance of petechiæ in Europe, to Italy, in or about 1477-8, or the beginning of the sixteenth century, during the well known pestilence.[††] They appeared in the course of the same year in Germany and in England; and to this disease the learned writer[*] refers the Sudor Anglicus of 1485.[†] But although Omodei supports his opinion of petechiæ being a new and idiopathic disease at that period, by references to an immense number of contemporary writers, and maintains his position with his usual candour and good temper, yet there still remains much obscurity upon this interesting point.[‡] If petechiæ be enumerated by most writers as a frequent symptom, though neither constant nor characteristic of plague, when, it may be asked, did the petechial contagion unite itself to that of plague, so as to constitute one disease? Or must we suppose two species of plague, one with and the other without petechiæ? In typhus fever petechiæ frequently occur, but they are usually regarded as symptomatic[§] only, more especially since they very commonly do not appear till late in the disease. We have no satisfactory proofs that petechiæ are contagious, like the fever which produces them, or that the fever becomes more infectious when petechiæ[‖] have appeared. Professor Omodei, however, entertains a contrary opinion, and wishes to establish a specific petechial contagion, which he affirms, in common with all other contagions, is permanent and incapable of modification. In denying that syphilis in early times was ever propagated as an epidemic, or that it had ever assumed any appearances different from those which occurred subsequent to 1495, he asserts that such transformations in the essential characters of contagious diseases are contradicted by analogy, which shows that no contagion has ever been in the least changed, or even rendered milder by length of time, change of climate, or any other cause. This opinion does not appear to me to accord with our experience. Of febrile contagion we yet know little more than its effect in producing fever, and its origin, perhaps universally, from living animal matter. If, therefore, it arises always from one source, it is not unreasonable to conclude that it must always be of one kind, though of different degrees of intensity. The fever excited by this matter applied to the human body may differ in some unimportant circumstances, in different countries and subjects, but is essentially the same in all.

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[*] See also Larrey Chir. Milit. iii. p. 153; Chenot, p. 180.

[†] Chenot, however, mentions the appearance of petechiæ in some cases of plague without bubos or carbuncles, yet none died.—Tract. de Peste, Vindob. 1766.

[‡] Ueber den sporad. typhus u. das Wechselfieber. The same opinion is held by the learned Vogel, Handbuch, der pract. A. ii. p. 71 and p. 93.

[§] De Peste iii. c. xiii. 186. See also Samoilowitz, Pugnet, &c.

[‖] Aphor. 55, sect. iv.

[¶] See also Burdach vom Baue und Leben des Gehirns, sec. 323. Dreyssig Handworterbuch der Medicin. Klinik. iv. p. 295.

[*] L'esser incapace d'indicare il donde e il quando la Petecchia è stata per la prima volta introdotta en Europa non è sufficiente motivo per rifiutarle un origine esotica. Annali di Medicina, Vol. xxii.

[†] Morbor. Antiquitates, p. 110.

[‡] On Cutaneous Diseases, 470.

[§] Hippocr. Lib. p. 674, 697, 795, 866, popularium. Ed. Vander Linden, i. p. 849. Baldinger selecta opuscula in quibus Hippocrates explicatur, p. 220.

[‖] Glossaria in Hippocratem. Ed. Franzius, p. 48, 434. Fæsii Œconomia Hippocratis, p. 131.

[¶] Raimann, Handbuch d. spec. u. Med. Pathologie u. Therapie, ii. 52. Selle Rudimenta Pyretologiæ, p. 171. Jos. Frank de Rubeola seu Rossalia. Prax. Med. Vol. i. p. 260. Henke Handbuch d. spez. Pathologie, Vol. ii. 79.

[**] Sprengel, Institutiones Medicæ, Vol. iv. p. 416. Dr. Willan on Cutan. Diseases, 433.

[††] Brunner is said by Haller to be the first German who notices petechiæ, "Primum Germanorum febrem peticularem habere."—Biblioth. Med. ii. 226. But it seems doubtful whether he does not rather allude to scurvy. See Gruner Morbor. Antiquitates, p. 117.

A person infected by contagion is incapable of communicating it to another until some time after it has, in the first instance, excited a degree of fever. This period is uncertain. Some assert[*] that even the contagion of small-pox is incommunicable before the seventh day of the disease. The contagion of typhus, and also that of plague, can only be produced by a febrile state; and there is reason to believe that every febrile state, by whatever name it is designated, may, by improper treatment, by crowding the sick into a small space, by neglect of ventilation and cleanliness, be made to communicate the contagion of typhus and in certain countries that of plague. The peculiar contagion of the exanthemata cannot be produced by any known means, but even to them the typhoid contagion may be superadded. The remittent fever of Sierra Leone was certainly not contagious; but I had grounds for suspecting that it might run into a typhoid form. The worst cases of fever which occurred there were in seamen, who had by ill treatment been obliged to run away from slave ships. These people were generally wretched, squalid, and filthy. In them the remissions were always obscure, often imperceptible, appearing to form a kind of intermediate stage between remittent fever and typhus.

But it may be objected that typhoid contagion may exist in persons apparently in health. A very low degree of fever, however, and such as scarcely attracts notice, may suffice, as is exemplified in the exanthemata. For instance, many persons are thought to be unsusceptible of the contagion of small-pox, measles, &c. because they have passed through life without any visible appearance of eruption. In this supposition, however, there is some degree of fallacy; for the eruption is not the cause but the effect of that peculiar change, which can only be produced by fever, which gives security in future against these cycloid diseases. In many instances this eruptive fever is so slight as not to excite suspicion of the nature of the disease, and in infancy it is readily attributed to other causes. Besides, in typhus, we ought not to estimate the degree of fever solely by the increased action of the heart and arteries, but rather by the affection of the sensorium, as indicated by headach, stupor, depression of strength, &c. which do not always bear a relative proportion to the state of the pulse. In plague epidemics people have been observed to walk about without fever, feeling no inconvenience, except the pain arising from bubos or carbuncles. This has induced some to suppose that fever is not essential to plague; but it may perhaps rather depend, in such cases, upon the bubos and carbuncles proving a crisis to the fever.

The variety of names applied to different kinds of fevers afford no advantage to the practical physician,[†] and are disregarded at the bedside of the patient; for, however different in name, the practice in fevers is founded upon the same general principle. The treatment of contagious typhus does not at all differ from that which has been found most successful in plague; and we find they have been so often mistaken for each other, by men of the highest professional skill, that we are led to suspect the two diseases to differ only in name. Chenot[*] asserts that plague shows itself at first with the common symptoms of typhus, followed sooner or later by bubo, carbuncle, or petechiæ. Many of the cases related by Diemerbroek and by Orræus might pass for mild forms of typhus, of which Diemerbroek's own case, "quasi fulmine tactus," and the few cases rather too briefly related by Dr. Wittman,[†] may serve as instances. Dr. Mackenzie, who resided many years at Constantinople, declares that the common pestilential fever of that city resembles our jail fever, and is only called plague when accompanied with bubos and carbuncles.[‡] Yet no certain diagnosis[§] can be founded on these appearances of bubo, &c. because they do not always occur, especially at the beginning of an epidemic. Glandular swellings are very prevalent in Syria, as Dr. Wittman informs us, where plague is not suspected; and it is not improbable that fever occurring in any of these cases might excite suspicions of plague.

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[*] Battista Susio notices the epidemic petechiæ of Bologna in 1540, which infected only the inhabitants, and did not spread to the neighbourhood. Del conoscere la Pestilenza, p. 45.

[†] Ellis's Original Letters, Vol. i. 296.

[‡] According to Dr. Friend, the sweating sickness appeared in 1483 at Milford, in the army of Henry VII. recurring four different times, the last time being in 1528. "In the following year, 1529, neither before nor afterwards, it showed itself in Holland and Germany." Opera omnia, p. 316. Parisiis, 1735. Petechiæ are not noticed among the symptoms. Gruner, Morborum Antiquitates, p. 65.

[§] Reuss. Wesender Exantheme, i. 37. Note.

[‖] Soemmering, de Morbis Vasor. Absorbent. p. 27.

[*] Unzer Pathologie der ansteck. Krankh. p. 150.

[†] Selle, Pyretologia, p. 52.

Plague has been supposed by some writers to bear a close affinity to yellow fever; but they differ in some essential points. The first arises from and is propagated by contagion; whilst it now seems pretty generally agreed, that the latter arises independent of contagion, and is not spread by it.[‖] Yellow fever is said[¶] to prevail from the 23° of south Lat. to 46° north, requiring a continual heat of 84° for its production; but this degree of heat is sufficient to extinguish plague. On the contrary, a changeable temperature, incling to cold, is destructive of yellow fever. Plague can maintain itself in excessive degrees of cold. Mindereus[**] was present at the plague of Ismail, during the most severe winter ever remembered there. All the attendants on the sick died except the gipsies, who were said to preserve themselves and children by bathing daily in the icy water of the river.[††] Eton makes a curious remark, that the further east a country is situated, the less frequently it is visited by plague, which also is said never to appear, probably spontaneously, where the olive does not grow. It may indeed be remarked, that extremes of heat or cold, unaccompanied by moisture, rarely produces disease. Great heat alone will not excite yellow fever. It did not occur at Sierra Leone during my residence there, though the requisite degree of heat existed. I have reason to believe that the ill effects of walking for a length of time under a vertical sun will be first experienced in the bowels by painful tenesmus, with an almost irresistible desire to evacuate them; thus laying a foundation for dysentery.

The striking resemblance between plague and the pestilential disease of horned cattle, called in this country murrain; in Germany, rinderpest, (cattle plague;)[*] hornviehseuche, (horned cattle contagion;) and provincially, loserdurre, has frequently attracted the notice of physicians. Indeed it was remarked, at a very early period, that epizooticks often preceded[†] or followed contagious diseases in the human subject, between which there was thought to prevail a strong analogy. Like plague, too, they have been supposed to be endemial in the east, and introduced from thence, to spread over all parts of Europe. The pestilential diseases incident to animals as well as the human subject have been classed under five distinct heads. 1. Oriental plague; 2. The variolous disease; 3. Plague of sheep (Schaafpocken); 4. Oriental cattle plague; 5. Occidental plague, or yellow fever. The epidemic disease of cattle is not only contagious, but it is also communicable by contagion to the human subject, producing carbuncle of a malignant kind, often attended with typhoid fever, extensive sloughing of the cellular substance and gangrene, in many instances speedily terminating in death.[‡] Lancisi referred the origin of the epidemic which in 1711 proved so fatal in Italy to a Hungarian ox brought to Padua by some Dalmatian drovers.[§] The parallel so accurately drawn by Professor Sick[‖] between the oriental cattle disease, as he terms it, and the occidental plague, shows in a very remarkable degree the strong resemblance of the symptoms in each disease.[¶]

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[*] De Peste, pp. 89, 91.

[†] Travels in Turkey. Kortum de vitio scrophuloso, Vol. i. 260.

[‡] Wolmar, p. 229.

[§] Grohmann, Beobacht. ü. d. im Jahr, 1813, Pest zu Bucharest. pp. 82, 85, 96. Lud. Frank, 67.

[‖] Schreiben ueber das gelbe Fieber von Osgood.

[¶] Sick. 110.

[**] Abermahl ein Beytrag zurheilung der Pest.

[††] Account of the Turkish Empire.

[*] Reuss. Wesen der Exantheme, i. p. 4.

[†] Noticed by Hodges as preceding the great Pestilence.

[‡] Hoffman der Milzbrand, oder contagiose carfunkel der Menschen, 1827. Harless, Handbuch, d. Aerzt. Klinik. ii. 256.

[§] Ramazzini de Contagiosa Epidemia, &c.

[‖] Kr. Beleucht. u. Wurdig. d. Europ. Pestkrankheiten, p. 160.

[¶] That the flesh of diseased cattle may be eaten with safety is further proved by Goelicke, de Lue contagiosa bovillum. Mauchart, de Lue Vaccarum. Tubing. 1745. Halleri Disputat. Likewise, Ens de Morbo Bovem Ostervic, pro Peste non habendo, contains many judicious though caustic remarks. He says, the flesh of these animals was very generally eaten by the peasants, especially "a Batavis (gente, utpote, valde œconomica et lucripeta, ne quid pereat) et sane! optime ipsis cessit negotium hocce, nec de morbo quodam

Hungary labours under the opprobrium of having frequently poisoned the cattle stalls of the Continent; in all parts of which, in consequence of these frequent plagues, public attention is immediately attracted by the first appearances of sickness among the cattle. Sanitary laws are established for the purpose of guarding against contagion, and placed under the surveillance of medical men skilled in veterinary practice. It has been remarked that foreign troops quartered in a place, or even marching through a country, although they appeared to be in perfect health, have introduced or excited febrile contagion. Ships of war often become sickly, by merely having strangers, though apparently in health, introduced into the crew. The same has been observed in cattle. Pilger[*] relates that he had seen 500 head of Hungarian cattle, all in apparent health, except somewhat fatigued by driving; yet these animals introduced a fatal disease among all the cattle where they chanced to pass the night. The same happens in Russia when cattle are driven from Kasan to Moscow. Hence it appears that a great number of cattle crowded together may produce a contagious matter, as is also observed in hospitals crowded with human subjects.[†] During the period between 1812 and 1815 the *Rinderpest*, or murrain, prevailed extensively on the Continent, and in consequence, Russia, Poland, Silesia, Bohemia, Saxony, and many of the small German states, suffered great devastation. After the battle of Leipzig, the disease proceeded with the advancing armies across the Rhine, and showed its destructive powers even in the vicinity of Paris. Camper referred this cattle disease to a poison of foreign origin, producing effects similar to the plague, spreading from one country to another, and manifesting itself by a train of symptoms indicating disorder of the sensorium. It has been doubted whether the flesh of such animals may be eaten with safety. We see this done with perfect impunity by gipsies and similar outcasts; but it may be considered as put out of doubt by the numerous experiments of Camper, that the flesh of cattle which have died of murrain is perfectly harmless when cooked.[‡]

Germany during the late severe struggle, in addition to the horrors, inseparable from war, heaped upon her in more than due proportion, was ravaged by a contagious typhus, very aptly termed war-plague, (Kriegspest,) from its great resemblance to that disease, and which occasioned an appalling loss of human life, as may be gathered from the following account:

In December 1812 and January 1813, there appeared in the Prussian territories the melancholy remnants of that immense French army which so shortly before had breathed defiance to the world, but which was in a few weeks, in the most unexampled manner, almost annihilated by cold, hunger, and the extreme of misery. More dead than alive, these former conquerors of the world, enervated and emaciated, appeared first in Lithuania and Silesia, bearing the terror of the Almighty in their countenances, and still more in their hearts; frozen in their limbs, physically and morally dead. The world had never before witnessed such a superabundance of human misery compressed into one point, nor had we ever seen it represented by such dreadful effects. It was not disease, that expression is too weak; it was the last sigh of human nature afflicted and tormented to death. They sunk with a general tremor, a total exhaustion of strength, destruction of the mind and nervous system, torpor of the skin, fever, petechiæ, and colliquative diarrhœa. Numbers were the prey of death; most of the survivors carried away chronic diseases; and certainly, of those who saw the conflagration of Moscow, not one returned without the germ of death in his vitals, or at least bearing in his physical powers a life-long reminiscence of that dreadful day.[*]

Though the disease was generally acknowledged to be a malignant typhus, yet great diversity of opinion prevailed respecting it; some considering it to be a sthenic, others an asthenic disease; some referring it to inflammation of the brain, others of the abdomen. The late Dr. Marcus of Bamberg, a man of talent and observation, but very ardent in support of his opinions, could only see in this disease the prevalence of the sthenic diathesis, and referred it, as well as every other case of typhus, to inflammation of the brain, which opinion is in some degree still followed. Marcus shed torrents of blood in defence of his doctrine, and no doubt was gratified with the success of his practice.[†] Other physicians, however, deservedly eminent, cured their fever patients likewise, but by a very opposite

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conquesti unquam." Halleri Disp. v. *in fine*.

[*] Unzer Einleitung zur algemein. Pathologie, 416.

[†] Goettingen im Med. Phys. u. hist. hinsicht geschildert. von Dr. K. F. H. Marx, p. 323.

[‡] Pilger Handbuch der Veterinarwissenschaft. 1803. Ramazzini de contagiosa Epidemia. Reuss. Heilung u. verhutung d. Kinderpest. 401. The beneficial effects of sluicing the cattle with cold water is very strongly pointed out.

[*] Hufeland, uber die Kriegspest, p. 53. As a companion to the above, the "Historia Febris Gallicæ Castrensis" by Scrinci, which occurred among the French under Marshal Bellisle at the siege of Prague in 1741, deserves to be noticed. (Halleri Disputationes, V. 387.) The deplorable and filthy state of the French hospitals, and the appalling loss of 30,000 men by fever, owing apparently to an obstinate and perverse attachment to a system of practice decidedly in opposition to common sense, might almost lead us to doubt whether medicine has been a blessing or a curse to mankind.

[†] Harless, Handbuch d. Aerzt. Klinik, i. 208.

mode of treatment.* The inference to be drawn from these conflicting opinions is, that nature can bear a great deal; but how much we have yet to learn.

(*To be continued.*)

From the Edinburgh Medical and Surgical Journal.

OBSERVATIONS ON A PECULIAR SWELLING OF THE LOWER EXTREMITY AFTER FEVER.

By ALEXANDER TWEEDIE, M. D. Physician to the London Fever Hospital, &c. &c.

The excellent and learned paper of Professor Duncan on Diffuse Inflammation of the Cellular Tissue, published in the first volume of the Transactions of the Medical and Chirurgical Society of Edinburgh, and more recently that of Mr. Lawrence on Erysipelas, in the 14th volume of the Transactions of the Medico-Chirurgical Society of London, have directed the attention of the profession to the pathology and treatment of some important local affections originating in inflammation of the cellular tissue; and it is with the view of adding to the valuable illustrations contained in these papers, that I now offer a few remarks on a peculiar swelling of the lower extremity, which occasionally comes on during the progress of, or convalescence from, fever.

It has been cursorily noticed by Dr. Cheyne in his report of the Hardwicke Fever Hospital, among the sequelæ of fever, as "an affection not confined to the female sex, resembling *phlegmatia dolens*," but he has not alluded to either its pathology or treatment.

It corresponds very much in its character and progress with the puerperal *phlegmatia dolens*, although from its resemblance to the œdematous swelling of the lower extremities, which occasionally appears after cases of protracted fever, its real nature and treatment are apt to be overlooked.

This disease, which I conceive to be inflammation of the cellular tissue of the limbs, differs, however, in many particulars. For example, in all the instances I have seen the swelling has been confined to one extremity, making its appearance first about the upper part, extending gradually over the whole limb, and being attended with acute pain. It does not retain the impression of the finger, as in common œdema, which generally commences round the ankle and foot, and seldom extends much higher.

I have treated several cases of this affection within the last four years at the London Fever Hospital. All the subjects of it were females, two of whom were under 20 years of age, and unmarried. I have been informed, however, that one case occurredin a male; but I have not been able to trace the history or treatment.

It may be remarked, that in all the instances which came under my notice, active depletion had been employed in the treatment of the fever, so that the convalescence was rendered somewhat tedious; and the first warning of the disease was given by symptoms of general excitement, which led me to expect either relapse or some visceral inflammation. In a few hours, however, the cause of the general disturbance became more apparent, from the patient complaining of stiffness in one of the lower extremities, followed by aching pain either about the upper and inner part of the thigh, or in the ham, around the knee or calf of the leg; and as rheumatism is by no means an unfrequent accidental accompaniment of fever at certain seasons, the uneasiness and pain in the limb are at first very apt to be ascribed to this cause.

In the course of twelve to eighteen hours the pain and stiffness increase, and on the limb being examined, it is found somewhat swollen and perceptibly hotter than the opposite; but there is no redness of the skin, which, on the contrary, has a smooth, white, shining appearance, and the cutaneous veins are distended with blood, and occasionally tortuous. As the disease advances, the swelling extends uniformly over the limb from the upper part of the thigh to the toes, and feels tense and elastic, but not at all diminished by the semiflexed position of the limb, which the patient generally prefers.

I also remarked the total inability to move the limb, not so much on account of pain, as from want of command over the voluntary muscles. This peculiarity has been noticed by Mr. Burns in the puerperal *phlegmatia dolens.*

When active treatment has been adopted, the pain abates, the swelling loses its elasticity and tension, so as to retain partially the impression of the fingers about the foot and ankle, and the heat of the limb diminishes, but the power of moving it continues for a long time considerably impaired.

In one case the disease terminated in ill-conditioned suppuration, and fluctuation being discovered on the fore part of the leg, an incision was made through the integuments, and a considerable quantity of thin sero-purulent fluid escaped. In this instance the affection differed from common abscess in there being no wall or cyst to confine the matter, which was lodged among the muscles, and required the application of a bandage to prevent its farther diffusion as it was secreted. This patient, after a tedious convalescence, completely recovered the use of the limb.

The two following cases, which have recently come under my care, will illustrate this disease, and the treatment which, under the view I have taken of the pathology, seems best adapted to subdue it.

CASE I.—Mary Bennett, 36 years of age, unmarried, was admitted into the London Fever Hospital on the 2d of November 1827.

She had been the subject of fever for ten days previous to admission, the brain being the organ principally affected from the commencement of her illness. She had been twice largely bled from the arm, and afterwards leeched on the temples, from which measures only temporary relief was procured. The severity of the disease being therefore still unsubdued, the pulse strong and full, the face flushed, and the skin hot, it was deemed adviseable on her admission into the hospital to repeat the venesection among the other antiphlogistic measures adopted. These being still insufficient to relieve the head, she was largely cupped, which, with the constant application of a cold lotion to the scalp and active purgatives, completely subdued the cerebral symptoms, and in a few days she was evidently convalescing. About a week after, however, and before she was permitted to sit out of bed, symptoms of fever became evident, and on the following day she complained of uneasiness in the left lower extremity, which on examination was found considerably swollen from the groin to the toes, and very painful when touched or moved.

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* Bach, Grundzuge der ansteck. Krankheiten, 79.

The integuments were hot, smooth, shining, of a pale marble white colour, and on the fore part of the tibia there was a large mark or scar, seemingly produced by previous vesication. On inquiry it was found that some time previously she had erysipelas of the leg, which terminated in extensive vesication on the seat of the cicatrix. Judging the disease to be of an inflammatory character, I directed twelve ounces of blood to be taken from the upper and inner part of the thigh, over the region of the inguinal vessels, and afterwards fomentations to be applied to the limb.

These measures had the effect of diminishing the pain, but the swelling continued to increase, the circumference of the affected thigh measuring twenty-eight inches. At this period my friend Mr. Lawrence did me the favour to give his opinion, and, deeming the view I had taken of the disease to be correct, agreed with me in the necessity of the repeated local abstraction of blood, and the diligent use of hot fomentations. She was at the same time put on a course of purgative and diuretic medicines.

Twelve to fifteen leeches were accordingly applied over the general surface of the limbs every second day, so that in the course of the succeeding ten days eight-four leeches had been applied; and the following is the report in the journal of the progress of the disease at this period:—

Skin of moderate heat; tongue quite clean; bowels open; urine in natural quantity and appearance; good appetite; sleeps well; pulse 108. The circumference of the affected limb has not diminished, but the integuments are much softer, and the leg and foot when pressed retain the impression of the finger, and the circumference of the leg has decreased half an inch.—The same medicines to be continued.

On the 15th the integuments of the limb are reported to be still warmer than natural, but the swelling to have much subsided, so that the whole limb feels softer; general health much improved.—A cold lotion to be applied to the limb.

On the 23d the swelling of the limb is noted to have been gradually decreasing, and the surface to be of natural temperature.—The limb was directed to be bandaged.

On the 26th December she was dismissed from the hospital, the limb being nearly reduced to its former size; and she had no perceptible lameness.

Case II.—Anne Davis, 27 years of age, married, was admitted into the London Fever Hospital on the 29th November 1827, in the thirteenth day of fever.

The symptoms on admission indicating intestinal inflammation, she was bled generally and locally, besides the adoption of other measures calculated to subdue the abdominal disease.

The convalescence, which was slow, was farther protracted by an attack of inflammation of the throat, for which the repeated local abstraction of blood was necessary.

In this debilitated state she was seized with shivering, followed by hot skin, thirst, and headach. These symptoms were succeeded by pain in the calf and ham of the right leg, extending in the course of a few hours over the whole limb; the skin was paler than natural, hot, smooth, and shining, and the whole thigh and leg were considerably enlarged. Twelve leeches were applied to the limb, and this was followed by anodyne fomentations and saline aperients.

These measures having procured only partial relief, the leeches were again applied, and muriate of ammonia added to the fomentation, from which she derived great relief, the swelling, heat, and pain of the limb subsiding in the course of a few days.

A threatened renewal of the disease a few days after was arrested by another application of the leeches and fomentation as before recommended.

It was a considerable time before this woman regained the complete use of her limb. A bandage was applied after the pain had subsided, which contributed materially to reduce the swelling; and she was dismissed from the hospital on the 6th of February 1828, free from complaint.

From the London Medical and Surgical Journal.

REMARKS ON DR. LUCAS'S PAPER ON THE CIRCULATION. By F. Bailey, M.B. Cantab.

To the Editors of the London Medical and Surgical Journal.

Gentlemen,—Sometime ago I appeared in your columns as the advocate of the doctrine which supposes the heart to be the sole organ concerned in the circulation.* More recently,

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* Journal of Foreign Medicine, Vol. I. page 423.

Mr. Davies has appeared on the same side; but, in your last Number, I perceive this theory has been attacked by Dr. Lucas,* who assures us, that Dr. Hastings "has proved the muscularity of arteries by a body of evidence perfectly irresistible." Not having, as yet, had the good fortune to peruse Dr. Hastings' essay, I can of course be no judge of its merits; but since it leads to inferences at variance with the conclusions of some of the most celebrated modern physiologists, and derives no solid support from the more ancient writers on the same subject, I am almost tempted to suspect some fallacy on the part of the Doctor. Dr. Lucas himself, indeed, towards the conclusion of his remarks, seems to intimate a certain degree of doubt as to the validity of this doctrine, when, relaxing from his high strain of eulogy, he observes that "a presumption (only) will arise in its favour."

To the question of the muscularity of arteries I have myself given some attention. I have frequently and very carefully dissected these vessels, but never could I discover in them any resemblance to muscular fibre. Often also have I, with the aid of a microscope of sufficiet power, watched the motion of the blood in the capillary vessels. The red particles, whose figure I could distinctly perceive, appeared to roll onwards with a perfectly uniform and uninterrupted motion. No alternate fits of motion and quiescence, such as happen to the contents of all other muscular tubes in their progress, were discoverable here; and this, I apprehend, is a fair ground for concluding that such particles must have been propelled by a dissimilar power. Haller, again, that illustrious physiologist, plied the arterial tubes with a variety of mechanical and chemical stimuli, such as would infallibly have roused into action any other hollow muscle, but could never succeed in producing (what Dr. Lucas contends for) their alternate contraction and dilatation. At a later period Dr. Parry and his associates put this point to the test of occular proof, by means of accurate and very delicate admeasurements, and they also came to the same conclusion. They could discern no alteration in the size of the artery as the blood flowed through it, no evidence of systole or diastole, although at that very moment the vessel yielded, on a slight compression between the thumb and finger, all the phenomena of the pulse. Both these writers, indeed, have borne ample testimony to a vital or tonic contraction occurring under certain circumstances; but neither of them ever confounded this mode of action with that alternate contraction and dilatation upon which the pulse is supposed to depend, and by which, alone, a muscular tube can be conceived capable of carrying forwards its contents. By a careful examination, I am aware a fibrous appearance may be developed in the arterial tunics; but it would be a gross perversion of truth to call those fibres *muscular*, which are wanting in *the external characters of such fibre, are dissimilar in point of chemical composition, obey not the same laws, and display none of the phenomena that are its inseparable concomitants.*—I entirely agree with Dr. Lucas, that the question must be decided by facts—clear and indisputable facts; and I therefore wonder that, with such facts as these before him, he can any longer stand up in defence of the muscular theory. But, for the sake of argument, we will even suppose the vascular system to be provided with muscular fibres. If, as is generally believed, these fibres are arranged circularly around the vessel, or rather in planes perpendicular to its axis, it is certain the consequence of their contraction will be to propel the blood as forcibly back towards the heart as from it, and thus to defeat the intention assigned them, that of assisting in the circulation. For, although (as Dr. Lucas very properly observes) no actual regurgitation into the heart can take place, by reason of the valves placed at the origin of the aorta, yet the momentum of the retrograding blood must present an obstacle to the successive efforts of the ventricle in the expulsion of its contents, far greater, indeed, than can be imagined to rise on the supposition that it has to contend against the inertia of volume merely. In short, the abettors of this doctrine are reduced to the necessity of maintaining that the heart continually generates motion for the purposes of circulation, which fails in its object; an absurdity, the bare mention of which is sufficient to throw discredit upon the theory from whence it proceeds, and to prove its repugnance to that wisdom and simplicity every where discoverable in nature's works. To obviate this difficulty, one suggestion has been offered, not devoid of plausibility. It consists in supposing that the fibres are arranged not circularly but obliquely, in regard to the axis of the vessel, and that, by contracting towards that point which is farthest removed from the centre of circulation, they must necessarily assist the heart in giving to the blood its progressive motion. To this, in common with many other equally ingenious conceits, there lies this simple objection, that they are all mere creatures of the imagination, having no foundation whatever in nature, fact, or truth.

Impressed with the force of these considerations, to which many more might be added, I can by no means concede to Dr. Lucas the assumption with which his essay commences, "that the arteries are muscular tubes." In error, as I candidly believe him to be on this point, he seems to me to deviate still further from the right line when he attempts to define the uses to which that other well-known property of arteries, their elasticity, is made subservient.

What, for example, can be more untrue in point of fact than his opinion, that the contraction or diminution in the caliber of an artery from exposure, laceration, or other injury, is effected by virtue of its elastic power? That such contraction or diminution in the cavity of the vessel results from the operation of a very different cause is most satisfactorily shown in the experiments of Dr. Parry, already alluded to. That observant inquirer drew blood largely from a vein at short intervals, and, after each successive bleeding, ascertained, by a very delicate admeasurement, what change had occurred in the dimensions of a large artery, laid bare for the purpose of observation. He found, that with every evacuation it contracted in size, and that just before death it had reached its minimum. A few hours afterwards, however, when every spark of vitality had become extinct, and the vessel was left to the sole influence of its elastic energy, it again dilated nearly to its original dimensions. From these facts, therefore, it inevitably follows, that dilatation is the proper effect of arterial elasticity,* and that the contraction of these vessels is accomplished upon a very different principle—a principle which is inherent in its fibrous texture, and which, being extinguished with life, is aptly enough designated by the title of vital contractility.

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* Journal of Foreign Medicine, Vol. II. page 344.

Having thus endeavoured to prove that the blood-vessels are not actively concerned in the circulation, it may not be improper to state in what sense they ought to be considered as subservient to that important function.

Upon the authority of facts and experiments already quoted, it is, I think, fair to conclude that the arteries are endowed with two very opposite properties or powers; one to diminish their capacity, called vital contractility, the other to increase it, denominated elasticity. Now, by a due adjustment of these opposing forces (agreeably to the analogy which seems to subsist everywhere,) the artery, I conceive, is reduced to the condition of a *rigid tube*—a condition plainly incompatible with all idea of its exerting a contractile effort on its contents. It is, in truth, a mere passive tube, whose influence on the circulation is strictly negative; and the only sense in which it can, with propriety be said to act at all is, by diminishing resistance, not by supplying force; and, although these operations are, in effect, the same, yet in a physiological point of view must they be distinguished, or much reason will there be to fear the introduction of practical as well as speculative errors.

Seeing then that arteries are, in effect, rigid tubes, it may very reasonably be asked, how can they be capable of increase or decrease, so as to suit every alteration in the quantity of the circulating mass? Such a contrivance would, *à priori*, seem contradictory and impossible; and yet it proceeds upon a plan exceedingly simple. We have only to suppose, what we know to be fact, that the vital contractility of an artery is *variable*, whilst its elasticity remains *the same*. If, then, that vital contractility increases, it must produce upon its antagonist power a corresponding effect; it must diminish the caliber of the vessel, until the equilibrium of the opposing force is restored. In like manner, if it be supposed to diminish, then will the elastic power predominate, and go on increasing the diameter of the artery until the two powers again become in exact equipoise. Of so easy solution is this apparently difficult problem; and never can we sufficiently admire the wisdom displayed in such a provision.

The principle upon which I have endeavoured to explain the adaptation of the arterial system to the opposite states of plethora and inanition, would, if pursued, go very far, I apprehend, in accounting for all those disturbances in the balance of circulation which constitute so great a sum of human misery; but this is foreign from my present purpose. From what has been advanced, I trust it may now sufficiently appear *that the arteries are a system (in effect at least) of rigid, passive tubes, serving merely as conduits to the fluid that may be destined to pass through them.* In estimating, therefore, the obstacles which the heart has to overcome in the circulation, we must strike out of the account *that enormous sum of resistance, originating from a supposed contractile effort of the blood-vessels on their contents, and constituting one of the greatest difficulties with which the question of the heart's power has been encompassed.* Another equally erroneous element in that calculation is derived from the consideration of the various angles at which the arterial trunks send off their ramifications. To acquire a correct notion of the circulation, we must conceive a system of tubes in free communication with each other, all in a state of repletion, and to one point of which a force is applied. In other words, we must imagine the simple case of an enclosed vessel filled with liquid. Now, if to *any part* of this vessel you administer force or pressure, it is immediately extended *to every other part.* In like manner, I apprehend, it happens, that *the force or pressure communicated by the heart to the contents of the aorta is instantly propagated to every part of the vascular system, notwithstanding the infinite variety observable in the angles and directions of the vessels of which it consists.* Frictions and inertia, then, seem to be the only real impediments to the circulation; friction against the sides of vessels, and the inertia of the mass to be moved—and, sceptical would that person be justly esteemed, who should refuse to so powerful a muscle as the heart the ability to surmount such obstacles. For, if the sufficiency of this organ, for the purposes of circulation, could not be disproved, even on the supposition that it had to contend against gratuitously assumed resistance, how much more equal to such a task must it appear, when it is considered, *that the chief of those resistances have only an imaginary existence.*

To this theory, however, Dr. Lucas has

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* I wish this to be understood with some limitation. I do not mean to say that an artery may not contract itself when immoderately extended. This were absurd; but all I intend to convey is, that, in the ordinary state of a living artery, dilatation is the proper effect of its elasticity.

proposed two objections that require a moment's consideration. The first is, that the blood continues its motion in the capillaries after apparent death, or even after excision of the heart; and the other, that the great arteries are found empty on dissection. With regard to the former of these objections, I would observe, that we are not told how long after the heart had ceased to beat, or after its removal from the body, this phenomenon continued. To the validity of the objection such information is very material. For it would be as unreasonable to suppose that the previously acquired momentum of the blood should be immediately annihilated on the abstraction of the heart's power, as that a ball should cease to move as soon as it had escaped from the cannon's mouth. In both cases the motion must remain for a considerable space after the power which produced it has ceased to be. In reply to the latter objection, which is founded on the vacuity of the great arteries after death, I would remark, that this appearance is very easily explained without any reference to the muscularity of the capillary system. Hunter has recorded an instance, in which the dimensions of an artery were so reduced by simple exposure, that it became an impervious cord. States approaching to this are, indeed, no uncommon occurrence, and, doubtless, result from the operation of that principle we have so often adverted to, *vital contractility*. It follows then, that the same thing may happen to the aorta, and its immediate branches. Suppose them, therefore, greatly reduced in their diameter from such a cause, and that, in this state of contraction, death supervenes. The contractile energy depending on life vanishes, and the vessels are left to the uncontrolled influence of their elastic principle, by whose agency they acquire a greater capacity, perhaps, than they had ever previously attained. Hence the vacuity on which so much undue stress has been laid. In despite, therefore, of every argument to the contrary, I am still disposed to adhere to my old, and long-cherished opinion, that *the heart is the sole cause of the blood's motion, and that the channels through which the blood passes are mere conduits*, endowed, by a peculiar construction, with the power of obviating resistance to the utmost possible degree.

I remain, gentlemen, yours, &c.

F. B.

From the London Medical and Physical Journal.

ON THE REMOVAL OF LOOSE SUBSTANCES FROM THE KNEE-JOINT.

By Charles Averill, Esq. Surgeon to the Casualty Hospital at Cheltenham.

Probably there is no disease to which the knee-joint is subject which produces more excruciating pain, for short intervals, than that occasioned by cartilaginous or bony substances lying loose in its cavity.

The following observations, therefore, on the removal of these bodies, I trust, will not be considered unimportant, presuming that that object may be facilitated by the means they suggest.

When it is ascertained that one or more of these substances are lying loose in the cavity of the knee-joint, we have the choice of two modes of practice, which may be called the palliative and the curative. The former is the method proposed by the late Mr. Hey, of wearing a bandage, or laced knee-cap, so as to confine the substances in one spot, and thereby prevent its giving pain by getting between the extremities of the bones forming the joint. This practice, I should imagine, is not applicable to those cases in which there are two or more substances present; especially if they differ considerably in size, and if the patient's occupation subject him to hard labour or severe exertion. In such cases relief may be afforded by the operation of removing the substances; but this, from its necessarily laying open the joint, as well as from its having been, in some instances, unsuccessfully attempted, has always been considered a serious undertaking.

The only difficulty that, as far as I am informed, has been found in accomplishing the operation, even when there are two or more substances present, is to fix them, whilst the operator cuts into the joint, so that he may extract them readily after the incision is made. This diufficlty, which is owing to the polished surfaces of the loose bodies, and the lubricating nature of the synovia favouring their slippery passage from one part of the joint to another, obliged the surgeon to relinquish the operation, even after he had cut into the joint, in a case of this kind, which was lately related to me by Mr. Thomas Christie, an apprentice of Dr. Ballingall's, surgeon to the Royal Infirmary in Edinburgh. In this case the operation had been twice attempted, by different surgeons, without success; and the patient afterwards went into the Edinburgh Infirmary, where the substance was removed by Mr. Allan.

Aware of the above facts, I was induced to consider how I might obviate the difficulties I have stated, and have been gratified to find that I could do so by very simple means. When the patient, whose case is here introduced, came under my care, I procured an iron ring, and found, upon trial, that the loose substances in the knee-joint were to be readily fixed by it, so securely, in one spot, as to leave no doubt in my mind of their being easily extracted. The result will best appear in my notes of the case, which are as follow:

George Fluck, aged thirty, by trade a gardener and nurseryman, was admitted into the Cheltenham Casualty Hospital, August 16, 1825, when he gave the following account of himself:

He had, for several years, thought there was a degree of weakness in his knees, particularly when he was carrying any heavy weight. Between two and three months since, after he had been kneeling for some time in the garden, at work, he was attacked with considerable inflammation and swelling in the left knee, for which he used an embrocation, and, when the swelling went down, he found there was a moveable substance in the joint. Shortly after he discovered a second. These at times caused excruciating pain, more particularly when he was walking down hill, or coming down stairs, so as to oblige him to sit down till the pain had subsided.

He had worn a bandage, by means of which he could fix the larger substance at the upper and outer part of the joint; but the smaller one could not be retained in any one place, and it was this which, from its motion, and from its getting between the ends of the bones, gave him pain.

At the time of his admission, both substances could be readily felt, and moved to different parts of the joint: one appeared to be about the size of a marble, flattened; the other considerably smaller.

He was recommended to submit to the operation of having them removed, to which he consented; and was therefore directed, by way of preparation, to take at night some pills of calomel and extract of colocynth, and some aperient medicine by day, for two or three days, and to eat no meat.

On the 19th, the operation was performed in the following manner: Both the substances being pushed to the upper and outer side of the joint, and the integuments drawn tightly over them towards one side,* while the knee was kept straightened; the substances were fixed by means of the ring, which I held with my left hand, firmly pressed against the side of the outer condyle of the femur, thus rendering their escape back into the joint impossible. I then, with a common scalpel, made an incision, within the ring, through the integuments and capsular ligament, from above dowwards into the joint; when the larger substance immediately fell out on the floor, and with my finger I tilted out the smaller one.†

The operation was performed in less than a minute, and only about a drachm of synovia escaped. There was no bleeding of consequence. The lips of the wound were brought together by adhesive plaster, a bandage applied, and a long splint was fixed on the outside of the limb, to prevent the knee being bent. He was directed to keep quiet in bed, and to take a saline draught every three hours.

20th.—He has had a good night, and is free from pain.

22d.—The wound dressed, looking very healthy.

28th.—Sat up for an hour or two.

September 3d.—Discharged quite well.

In conclusion, I may be allowed to ask, whether the evils so much dreaded in the operation of removing loose cartilages from the joints may not, in all probability, have arisen from the excessive escape of synovia, and the irritation produced by unsuccessful attempts to squeeze out those substances at a wound made comparatively upon speculation; and whether, if they can be always certainly and securely fixed by the simple means I have employed, the operation be not thereby rendered sufficiently safe to authorize us to recommended it with confidence: at all events, where the bandage and knee-cap have failed to afford relief.

From the Philosophical Magazine and Annals of Philosophy.

REMARKS ON THE INFLUENCE OF TERRESTRIAL RADIATION IN DETERMINING THE SITE OF MALARIA.

By Wm. Addison.

The diseases arising from atmospheric impregnations have long formed an important topic of inquiry among medical men, and are generally supposed to have an origin from some subtile poison, prevalent only in certain places, or over very circumscribed situations. Upon considering the various circumstances under which these diseases are produced, and the impossibility of any poison dispersed through the air from the ground becoming partial in its operation, or always confined to any particular district (when every wind must waft it away from the spot of its emanation,) unless some adventitious circumstance influences its operations,—I am induced not to subscribe to the doctrine which teaches that they take place from a specific or peculiar and locally acting effluvium. On the contrary, I think we shall find that most of the ordinary atmospheric impregnations will produce the diseases of malaria, when under certain peculiar circumstances they are liberated from their combinations; diseases which will, no doubt, be violent or not, according to the quantity or quality of the matters developed.

The atmosphere, as is well known, retains every where mingled with it variable proportions of aqueous vapour, mixed probably with various effluvia arising from the action of the sun upon the many substances on the surface of the earth. During a bright day, therefore, the air over those portions of the ground subjected to its influence becomes saturated with vapour, and any reduction of temperature by radiation will always be accompanied by the deposition of moisture and the precipitation of a portion of those subtile matters drawn up by the agency of heat; whereas any diminution of sensible caloric, which may ensue from a rush of cold air, may not be accompanied with the same effects: for it very often happens that such currents have not nearly attained their maximum point with respect to vapour, and therefore none of these things happen; or if they do, the deposits occur in the form of rain, far less prejudicial than those chilly fogs produced by the *radiation of caloric from the earth.*

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* This was done to prevent the wound in the integuments being parallel to that in the capsular ligament.

† The substances removed appear to have been broken from each other; and to be composed in part of bone, which is imbedded in cartilage, surrounding it on the margin and on the whole of the under surface.

When we think of the important process of radiation, the effects of which have excited the attention of philosophers, especially those connected with horticultural pursuits, it is extraordinary that it should wholly have escaped them to pursue their investigations into this curious subject, with reference to the momentous matter of local salubrity; for little doubt remains upon my mind, that a well conducted series of experiments instituted to discover the phenomena resulting from the *radiation of heat into the heavens*, in different situations and over various surfaces and soils in several places at the same time, would discover to us an important field well worthy of research as connected with the health of mankind.

I have already endeavoured to draw the attention of those who may possess opportunity and the means of entering into this interesting branch of inquiry, towards the benefits their labours are likely to confer upon us in a medical point of view.* I have shown that all those situations where the radiation of caloric goes on with rapidity, are occasionally, if not at all times, extremely unhealthy; while others, where this process is diminished, are on the contrary much less obnoxious to disease. I have shown that debilitated constitutions are invariably found to regain the tone and vigour of health much more perfectly and more quickly in places little influenced by radiation or removed from the sphere of its effects, than in others exposed to the depositions which it causes from the air; and I have endeavoured to confirm these observations, by pointing out that in the *radiation of caloric* may be found *the cause of the activity* of those exhalations with which the sun, in tropical climates especially, saturates the air: in fine, that in this important process one of the principal causes of malaria will be found.

I shall here offer a few more facts in support of the views I have taken. And as nothing has tended more to confirm me in them than the perusal of Dr. Macculloch's Essay on the Production and Propagation of Malaria, I shall proceed to the consideration of some of the passages in that publication.

"The careful observer will often perceive," says the Doctor, "that there are certain determinate places without any marshes, where fevers are almost annually prevalent; while other places in the vicinity are almost wholly or nearly exempt. A proof of this may be drawn from the fact that some localities are known to be unhealthy as compared with other neighbouring places.

"Thus it is the vulgar remark, that in certain houses or places a family is rarely without some sickness; or, to use the strong but coarse language in which it is generally stated, 'that the apothecary is never out of the house.' It is almost equally familiar, that families which before had been healthy, have become the reverse on changing houses or situations; as in the opposite cases, that they have recovered health by change of residence. Of such facts as these there is no observer who must not be able to recollect numerous examples." Again, "If a gravelly soil is healthy, it is because its easy drainage prevents the growth of that particular vegetation which is the cause of malaria; and if a clayey soil is the reverse, it is because by lodging superficial water it generates, however partially, those marshy or undrained spots, or wet woods or moist meadows, which are the sources of *this poison*, and consequently of the various diseases confounded under the vague term of unhealthiness."—*Essay*, pp. 19 & 21.

Now, upon this latter passage I may remark, that as water is one of the best radiators of caloric, so all wet, low, and marshy places will be found the most affected by it; and it will follow that any soil whose mechanical texture is such as to allow the water to permeate through it, or to drain off, at the same time that other circumstances combine to arrest the dissipation of heat by radiation, that soil will be found much more salubrious than one retentive of moisture, and particularly if the surface of this latter is covered with low herbage or grass, which is in itself an excellent promoter of terrestrial radiation.

"That woods and jungles in hot countries give origin to miasmata of the worst kind is well known to all medical men; but some doubt may be entertained as to their insalubrity in Europe."—"Dr. Macculloch thinks there is strong reason to believe that close and wet woods generate malaria in this as well as in the warmer countries of Europe. Certain woody districts in Sussex and Kent produce both intermittent and remittent fevers,—at least there is no other assignable cause. The same may be said of some parts of Hampshire and Essex; as about Epping Forest, for example."—"On the other hand, we have positive testimony that lands which were healthy when covered with wood, have become extremely unhealthy when cleared and cultivated."

The thick foliage, as I have elsewhere shown, of the trees composing most of the intertropical forests, and even of some of those also in this country, by obstructing the rays of the sun, preserve in their immediate vicinity a greater degree of stillness and a lower temperature than that attained by the atmosphere over the contiguous grounds; whence the heated air coming slowly to circulate among the branches of the trees of these forests, becomes cooled, and its vapours developed; and it is these which occasion the diseases of malaria.—"Yet it requires much circumspection," says the Doctor, "in deciding upon the propriety of clearing these grounds with the view of rendering them more salubrious."—And why? Because trees naturally tend to obstruct the force of radiation; and, if planted on a good radiating surface, not so close toge-

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[*] Vide the last section of "A Dissertation on the Nature and Properties of the Malvern Water," &c. &c.

ther as entirely to obstruct the genial influence of moderate warmth from the sun's rays, or to prevent the free circulation of the air, will prove a valuable defence against the appearance of malaria, by counteracting that unequal distribution of temperature which, *I believe*, develops its existence in the air: whereas, if these are cut down and the ground cleared, a good radiating surface becomes immediately exposed, and the dissipation of caloric with its accompanying effects directly ensues.—"A portion of grass-plat," says Dr. Daniell in his Meteorological Essays, "under the protection of a tree or hedge, will generally be found on a clear night to be eight or ten degrees warmer than unsheltered parts; and it is well known to gardeners that less dew and frost are to be found in such situations than in those which are freely exposed." —Dr. Macculloch in noticing the comparative healthiness of ancient and modern Rome, thought it not unimportant to notice what Theophrastus has stated with regard to the plain of Latium, which this historian says was covered with laurel and myrtle-trees of such a size as to be used in ship-building; and this remark, if terrestrial radiation has any thing to do with the development of malaria, is not so fanciful as one of his reviewers seems to imagine it.* Again, if terrestrial radiation is the cause of the deleterious influence of those effluvia existing in the atmosphere, we are no longer surprised at finding rice-grounds, which are kept in a constant state of wet or moisture during the growth of the plants, prolific in the diseases which malaria occasions.

"Dr. Macculloch is convinced that the minute marshy or swampy spots which occur in thousands of low situations, whether on commons, near woods by road sides, or in innumerable other places where they hardly ever attract notice,—are productive of malaria; though their limited range of action generally renders their power insensible, unless when houses happen to be erected in their vicinity." —"In how far meadows which cannot be called marshy are capable of producing malaria, is an intricate and entangled question. It appears certain, however, that there are many tracts of meadow or of alluvial land not marshy, and often not intersected by ditches, at least in a conspicuous manner, which are the sources of malaria all over Europe." *Essay*, p. 69.—"Such is the case with all the alluvial tracts at the entrances and sometimes at the exits of the lakes of Switzerland and elsewhere; and in places innumerable where there is no proper marsh, nor even an approach to such a character, but where the prevalent diseases must be owing to malaria."—"Volney, while travelling in America, has averred that every valley in the country which he visited produced the fevers of malaria, enumerating among the sources of this poison not only marshes and wood, but rivers, millponds, &c." —"The meadow lands about Fontainbleau, at the junction of the Yonne and the Seine, are notorious for the *fièvre du pays;* so injurious are they, that few escape intermittents or remittents over a considerable tract." If some great portions of the meadow land in England have been recovered by drainage from a state of marsh, and are now as dry as the ordinary low-lands of plains and valleys; and if these localities still produce malaria and its consequences,—it is another point of evidence against the salubrity of meadows generally. "It is a rooted opinion in England, that there can be no malaria on the banks of a running stream; and as far as mountain-torrents are concerned, this is probably true: but where rivers slowly meander through low grounds, we must not trust to the mere motion of the water."—"For whatever persons may still think as to rivers in general in our own country, there is no doubt that such streams as the Ouse, the Lee, and all others flowing with difficulty through fertile meadows, and with a flat vegetable margin, are productive of malaria."

But not to occupy more than necessary the time of the reader by quoting further from Dr. Macculloch's Essay, I shall only observe that this author has found "small streams bordered by thin and grassy margins; tranquil and stagnant waters, especially in hot countries; and ponds occupying but a small space, —to be productive of '*evening mists*,' the results of which are autumnal and intermittent fevers." And is not the *terrestrial radiation of caloric*, I would here ask, the cause of those evening mists which favour the attacks of these disorders? Indeed it is remarkable to find that every locality pointed out by the Doctor as productive of malaria, will be found to possess one or other of those circumstances which promote the dissipation of heat from the ground. It has long been known that water and a grassy surface are excellent radiators of caloric; and the effects of this process —fogs, damps and dew—were observed long before the cause of them was properly understood. "A valley," says Mr. Daniell,* "is more liable to the effects of radiation, than the tops or sides of hills; and it is a well-known fact that dew and hoar-frost are always more abundant in the former than in the latter situations. The influence of high hills is, however, often prejudicial to the valleys at their feet; for the condensed and moist air rolls down their sides, and lodges at the bottom: these, therefore, are protected from the chill, while a double portion falls upon what many are apt to consider the more sheltered situation. It is a very old remark, that the injurious effects of cold occur chiefly in hollow places, and that frosts are less severe upon hills than upon the neighbouring plains: and it is consistent with my own observations, that the leaves of the vine, the walnut tree, and the succulent shoots of Dahlias and potatoes, are often destroyed by frosts in the sheltered valleys, on nights when they are perfectly untouched upon the surrounding eminences." The diminution of temperature which is produced upon the surface of radiating bodies during the night is communicated by slow degrees to the surrounding atmosphere; and if the process goes on for any considerable period, moisture and probably other matters are not only deposited upon them, but are precipitated in the air itself, affecting more or less the feelings of every one within its range, but particularly the weak or unhealthy.

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* Medico-Chirurgical Review, Jan. 1828.

* Meteorological Essays and Observations.

One of the chief arguments in favour of the important influence exerted by terrestrial radiation in the production of that state of the atmosphere favourable to the attacks of disease, and known by the name of malaria, is drawn from the fact that in almost, nay I might say every case, where the violence of the symptoms induced by it will permit us to observe *the first impressions* which it causes, we find that its baneful influence is exerted during the night-season, while in the day-time it is comparatively, if not quite, inert. It would be needless to reiterate here the numerous proofs of this, distributed among the writings of those many accurate observers who have been at the pains of noticing the habitudes of malaria. I shall content myself, therefore, with quoting only Dr. Ferguson, who observes in his History of the Marsh Poison, "that the rarifying heat of the sun dispels miasms which create fevers and violent diseases, and that it is only during the cooler temperature of the night, that they acquire body, concentration, and power."

Now surely any miasmatous effluvia liberated from exposed vegeto-animal or other matters by the rays of the sun, must exist in the atmosphere as much if not more during the day-season than in the night; for it is more than probable that nothing is *given up by the ground* after sun-set. How is it then, we may ask, that the great potency of malaria at night, and its comparative harmlessness during the day, have so constantly forced themselves upon our notice? Is it not because the air during the former period is cooled by radiation and rendered incapable of retaining those matters which the warmer air of the day-time held in perfect solution? A still atmosphere containing miasmatous matters, therefore, becomes dangerous to health in proportion as it reaches, by a gradual reduction of temperature, such as ensues from radiation, its dew point: for during the period when its temperature is elevated above this point, the malarious matter is without any, or of but little injurious agency; while the nearer it approaches the point at which moisture will be liberated from it, the more those extraneous matters it may contain become developed, as is fully shown by the much greater potency of odours at that period, of which numerous instances might here be mentioned; but it will be sufficient to recall what every one must have observed during the summer months: after a hot day, if the air at night remains still, or is favourable to the process of radiation, it is truly astonishing how far odours will diffuse themselves, and how powerful they generally are: a few hours after sun-set, on evenings favourable to the deposition of dew, many effluvia become very perceptible, and are potent and concentrated in proportion to the stillness of the air and its approach to the *dew point.* Winds, although they very often cause considerable reductions of temperature, are not so prejudicial, or so frequently productive of ill effects upon the human body, as those abstractions of caloric resulting from radiation; and for this reason,—because in the former instance the morbific particles are dispersed, and so diluted by the aërial currents as to be rendered incapable of exercising any injurious influence upon the body, or only upon such as are rendered extremely sensible to the exciting causes of disease; whereas in the latter instance they become often greatly accumulated, and so highly prejudicial, that few escape.

In this country the pernicious nature of the morning and evening mists formed over low grounds has been observed, and in hotter climates I need scarcely say that their influence in generating fever is as notorious as any of the best established facts on this subject; and the progress of the sun upwards being a remedy for the morning mists, and the day altogether for those of the night, seems to confirm the opinion, that a watery and moist atmosphere is the active conductor or repository of malaria; and that when the former is dissipated, the latter is checked in its progress; when the one is entirely dispersed, the other may be destroyed: so that the matter of malaria seems to be defined as to its place and extent by vapour and mist.*

That the diseases arising from miasmata in the air do sometimes cease in a definite and sudden line, and terminate also at particular altitudes, has often been observed and recorded; and these remarkable instances cannot be satisfactorily explained upon any other supposition than that afforded by the *radiation of caloric.* To explain their cessation in the former instance, we may remark, that that depression of temperature which ensues at night over a good radiating surface, may be sufficient to render active the miasms existing in the air; while over others, less powerful in the dissipation of caloric, the depression of temperature may not be sufficient; and it is probable that in many cases an atmosphere rendered prejudicial by the one, is again made innoxious by passing over the other. With respect to altitude, I have before shown that slight elevations are frequently a protection against the heavy miasmatous air which subsides to the lowest situations.

But to place this important subject in the clearest possible light, let me endeavour (by an appeal to some well-known chemical facts) to set forth the nature of the connexion existing between free caloric and the matter of malaria. Let us suppose that the former exerts over the latter an influence analogous to that exercised by an *acid* over an *alkali* (neutralizing its qualities and destroying its effects,) and we shall immediately perceive that the mere presence of malarious matters in the air may not be sufficient to excite in the human body a state of disorder or disease: carry the reasoning a little further, and then we can fully understand the way in which *radiation* proves injurious. Are we not warranted in concluding, from those facts which observation and experience have discovered to us, that similar phenomena are exhibited in the relations subsisting between the matter of heat and miasmatous effluvia, as we witness among the various combinations of the chemical world? Withdraw one of the elements of a binary compound, and the other becomes immediately apparent, and is developed with all those potent qualities which had been destroyed or neutralized whilst in union. So miasmatous matters are inert while fixed to the ground, from which they can arise only in conjunction with caloric; and as long as they continue together no ill effects ensue: but diminish the temperature, or, in other words, take away the caloric, and the injurious qualities of the miasms immediately become apparent. It may be objected, that if the injurious agency of miasmata in the air results from the mere abstraction of heat, no reduction of temperature could ensue without the production of malaria.—But this is not true; for we may justly suppose that in a great majority of cases there is not sufficient noxious matter on the ground to saturate—if I may be allowed the term—the caloric existing in the air, and therefore that in these instances great reductions of temperature may take place without any appearance of malaria, in the same manner as (to carry on the analogy drawn from chemical combinations) we can detach a portion of the acid from a supersaturated salt, without developing the existence or qualities of the alkali. On the other hand, the miasmatous source may sometimes afford a supply amply sufficient to satisfy even a very high temperature; and then any trifling escape of caloric will be accompanied with an injurious precipitation: and if the cooling process continues, a highly noxious malaria will result.

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* *Vide* Macculloch's Essay, pp. 259 and 274.

It has been observed, that very often the diseases arising from malaria ensue upon the temperature of a place reaching a certain point; that they increase in frequency and violence as the heat increases, but diminish as the mean temperature falls. These facts are not at all irreconcileable with the phenomena of *radiation;* for in these cases we may justly suppose, that at the higher temperatures malarious matter is liberated from the soil, the quantity of which is greater in proportion to the thermometric rise, while the lower temperatures are not sufficient to liberate any quantity of the noxious effluvium and diffuse it through the air: in the former case the radiation of caloric will be attended with disease, in the latter it will not.

I might here relate many facts tending to show the intimate connexion which subsists between caloric and miasmatous effluvia, but I conceive that what has been here stated will be ample to establish this point, as well as the fact that the latter become virulent in proportion to the abstraction of the former by the process of radiation.

In conclusion, I shall briefly point out the importance of the foregoing observations, if they shall be found correct, towards the attainment of that desirable end, *the protection of mankind against the injurious impregnations of the air.*

As regards the prevention of the rise of miasms from the ground, I fear we have too little control over the powerful agency of the rays of the sun to adopt successfully any plan with reference to this head. The solar influence is too great and too general to enable us to obstruct the emanation of various effluvia from the soil: nevertheless, much may be done by removing as far as possible from the surface of the ground any thing likely to afford them; and although our endeavours on this point must be very inefficient, they may be more successful and beneficial if directed to obviate those conditions which, as we have seen, have such a considerable effect in rendering active the noxious properties of malaria; viz. 1st, by preventing the dissipation of caloric through a still atmosphere; and, 2dly, by promoting those aërial currents which tend so much to dilute and carry off any deposition which may ensue from that process.

In order to accomplish the former of these indications, we must use every means in our power to diminish the radiation of heat from the ground after sun-set, or to remove as far as possible from the circle of its operation, by attaining during the night-season some moderate elevation, interspersed here and there with lofty trees, and hedges or inclosures, and placed to windward of the more rapidly radiating surfaces which may be near: for although we speak of a calm and still atmosphere as being highly favourable to the development of malaria, still it must be understood that in almost every instance there are gentle, although perhaps imperceptible currents in the air, fully sufficient to waft to a considerable distance the miasms liberated by the dissipation of caloric; and any increase of temperature which such currents may acquire in their passage over less perfect radiators, will not always be enough to disarm them of their injurious influence. In situations therefore more particularly, where we are likely to be subjected to miasmatous products, and where the air at night is generally still, or where the gentle breezes are found to sweep over tracts favourable to radiation, it behoves us to endeavour,—by exciting artificially aërial currents, and by raising or keeping up the temperature of the air of the place where we may be by circumstances constrained to remain,—to prevent the deposition and development of malaria. This may be accomplished by lighting *large fires* to windward of the place of our nightly sojourn.—This is not a new idea: fires have already been observed to be beneficial in warding off the nocent power of malaria, though the principle upon which they act has not been properly understood, and consequently they have never been employed to the best advantage for this purpose. Dr. Macculloch relates a very important case, where a superintendent engaged in directing the cutting of wood in Africa, erected thirty earthen furnaces on the spot where his men were employed, lighting them every day. Before this, he had always from forty to forty-eight of his workmen sick; when in a short time they were reduced to twelve, then to four, and finally to one. Napoleon adopted the same expedient very largely, and with success, when his armies were occupied in the very worst district of Italy.* Knowing the principle of their operation, I should recommend them to be lighted at sun-set, and to be allowed to burn until sun-rise, having a regard to their position as pointed out in the foregoing remarks. Where large numbers of human beings are congregated together, as in armies, camps, &c., and where their situation at night is too often determined by other circumstances than salubrity, the value of these observations, with the knowledge of the principles which should direct their application, cannot but be very apparent.

It will be easily seen, from what has already been said, that fires as defences against malaria will be much more necessary during the nocturnal period than at any other; and even at this season, when the wind is blowing strongly and the night is overcast, they will not be so much required as when the air is clear and still.—It is not my intention to speak here of those various extraneous circumstances which render the body more susceptible of injurious influences at night than during the day,—such as bodily and mental exhaustion, sleep and diminished temperature; nevertheless they are well worthy of our serious regard, as co-operating powerfully with noxious miasmata in producing a state of disease.

From the Edinburgh Medical and Surgical Journal.

ESSAY ON THE NATURE OF INFLAMMATION. By JAMES SYME, Esq. F. R. C. Surgeons, Lecturer on Anatomy and Surgery, &c.

After so much has been said and written on the subject of inflammation, it may seem presumptuous in me to attempt any new exposition of its nature within the narrow limit afforded by a periodical publication. Nevertheless, having often had occasion to regret the difficulty and disheartening uncertainty which meet young men at their very outset in surgical study, owing to the perplexing and conflicting doctrines which are taught respecting this fundamental part of their professional knowledge, and having succeeded in giving a view of it which has proved not only easy and intelligible, but also extremely useful as a preparation for the pathological and practical instructions which it preceded, I think it my duty to publish a short statement of the opinions in question, for the benefit of those to whom I have not the honour of addressing them in my lectures.

One of the principal sources of the difficulty and confusion which distinguish inflammation is, I believe, the very various use that has been made of this term. Sometimes it is understood to express that condition of a part in which it is red, hot, swelled, and painful; at other times it is employed to denote the peculiar action which occasions the formation of pus,—or causes absorption—or pours out dropsical effusion,—or unites surfaces by the exudation and organization of lymph,—or produces new structures, such as scirrhus.

It is quite evident, that, when inflammation is used in so extensive a sense, it becomes nearly synonymous with disease, and ceases to be serviceable in expressing any particular condition of the nutrient, or, as it is called by others, the capillary apparatus. I must beg it, therefore, to be distinctly understood, that I will use the term inflammation merely to imply that condition of a part in which its natural actions are more or less completely suspended; and there are not established any new ones that alter its structure or produce new secretions. This condition, which is usually attended with redness, heat, and pain, almost always intervenes between the healthy actions of organs, and those morbid ones which alter their structure by separating from the blood matters that differ in quantity or quality from those naturally existing.

In investigating the nature of inflammation, it seems to me that too much attention has been directed to its obvious signs, viz. redness, heat, swelling, and pain; and too little bestowed on the other character above mentioned, viz. alteration of the natural action. The former are not only seldom all appreciable, but also very variable in their degree, and even in their existence, so that no one of them can be considered essential; and three of them, viz. redness, heat, and swelling, attend another very different condition of the capillary apparatus, viz. excitement; while the latter invariably attends inflammation—can generally be ascertained—and indeed is often its only symptom. Whatever be the function performed during health, it is perverted or suspended as soon as its organ becomes inflamed. Thus the stomach ceases to digest—the kidney to secrete healthy urine—the retina to receive the impressions of light—the muscles to contract—and if the part perform no living office excepting its own nutrition, there is here also a change, the first visible sign of which is, that the arterial blood is no longer converted into venous. Now, if this remarkable character of inflammation had been kept in mind, pathologists would hardly have spent so much labour in disputing about contraction and dilatation of the vessels, since it is obvious that mere difference of capacity, though it might to a certain extent account for the redness and swelling, could never enable us to explain the alteration of function, any more than a knowledge of the size of capillary vessels could instruct us as to the mode in which their secretions, &c. are performed during health. But even granting that the change in appearance is all that requires to be explained in inflammation, I think it might be easily shown that the theories hitherto adopted, and doctrines founded upon them, are quite insufficient for the purpose.

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* Macculloch's Essay, p. 286.

Though Harvey and his immediate converts naturally enough attributed the circulation of the blood to the power of the heart exclusively, it has been long determined by physiologists that there must be some other agent. Indeed, when we reflect on the variable force with which the blood moves over the system—sometimes running to this organ, sometimes to that one—to the muscles—to the brain—to the stomach—to the organs of generation, &c. it is impossible to believe that the whole mass of fluid owes its motion to one impulse.

In accounting for the additional agent which it is thus necessary to admit, physiologists first directed their attention to the arteries, and attempted to prove, by analogy between the appearance of the middle coat of these vessels and that of the intestinal tube—by observation of their capacity at different times, and under different circumstances—and by the effect of irritants, chemical and mechanical—that they possessed a contractile power, not only elastic but irritable. I certainly think that the circular fibres of arteries more nearly resemble the elastic tissue than any other in the system; but as I am far from holding that muscular structure is essential to irritable contractibility, and as a very fair case has unquestionably been made out in favour of their possessing this power, I am willing to admit that they possess it. Unless the arteries dilate in proportion to their alleged contraction, it is plain that the quantity of blood transmitted through any part of them so affected will be diminished, instead of being increased. Those, therefore, who advocate the motive power of arteries assume that they do dilate proportionally. But this assumption is altogether gratuitous, since the only contraction of these vessels, for which there is any respectable evidence, occurs slowly and gradually, not appearing sometimes until several hours have elapsed after the operation of those circumstances which are supposed to induce it, and not suffering any sudden remission. But even granting that the arteries possess this alternate action, shall we then be able to account for the circulation through bone, or understand how it goes on when the arteries are ossified or converted into rigid tubes by the deposition of calcareous matter in their coats, that common or rather usual occurrence of old age? There are many more objections which might be urged against the motive power attributed to the arteries. Some of these I shall have to mention by and by. In the meantime enough has been said to show that the existence of the power in question is assumed without proper evidence, and that, even if it did exist, it would be insufficient for the effect attributed to it.

The next accessory power I shall notice is that so ably advocated by Drs. Carson, Barry, &c. viz. the pressure of the atmosphere. Not to enter into any formal argument against this ingenious, but, in my opinion, very frail theory, I will merely observe—what is a sufficient objection to it in respect to our present purpose—that it does not account for the fact of local determination, since the sucking power of the heart, if it exist, must, like the propelling one, act on the whole mass of blood.

The heart and great vessels then being inadequate to carry on the circulation, we must next inquire how far the capillaries are concerned.

To prove that there is a motive power resident in the capillaries, it is sufficient, after what has been said, to show that the blood occasionally flows in larger quantity and with greater force to particular portions of the system. But this is an occurrence so frequent and well known as to require no illustration. We see instances of it continually, from the slight and passing tide of shame, or the more permanent erythematous blush which instantly follows a severe local irritation, as the actual cautery, to the steady and exhausting flow which nourishes some monstrous growth at the expense of the rest of the body. If farther evidence were required to prove the existence of this power in the capillaries, I might appeal to the facts of absorption, to the motion of the blood in animals which have no heart, to the circulation of the fœtus, or to the ascent of the sap in plants; and if there should still be any doubt, I would then bring forward the *experimentum crucis* of cutting out the heart of an animal, and examining the capillary circulation with the assistance of a microscope. I have repeatedly seen the globules continue in motion through the capillaries of a frog for forty minutes after the whole heart was excised. And this motion was not uniform either as to direction or velocity, in which case the gradual contraction of the large vessels might have been supposed adequate to account for it—but sometimes this way, sometimes that—at one time quick, at another slow—and always continuing quickest as well as longest in the smallest vessels—while in health the motion of the blood is slowest in the capillaries.

What is the nature of this power? Is it muscular or some other sort of contractility, as almost all physiologists tell us? The same objection applies here as in the case of the arteries. The existence of such a power is altogether matter of assumption. If it is constant it ought to lessen the quantity of blood transmitted, and if it alternates with dilatation, the contents of the vein ought to move in successive undulations. In this case also we ought to discern through the microscope not only a change in the capacity of the capillaries, but an oscillatory movement of the globules passing through them. Instead of this, we see the capillaries apparently quite rigid and immoveable, while the globules shoot through them in such a free unconstrained manner, as to convince every unprejudiced observer that they are not impelled by a *vis a tergo*. If we attribute the capillary movement to contraction of the vessels, how can we account for absorption in the circulation of plants?

But granting that the power of the capillaries depends on contractility, how shall we account for the obvious phenomena of inflammation? If we suppose that in inflammation the actions of the part are increased, there ought to be contraction or paleness instead of swelling and redness; wherefore, Allan, Vacca, W. Philip, Hastings, &c. have told us, that inflammation must depend on debility, since the vessels are larger, and therefore weakened in their contractile power. But by parity of reasoning the common state of excitement must be debility.

I think then it will be allowed, that even supposing it were sufficient in explaining inflammation to account for the obvious symptoms of redness and swelling, it is impossible to do so satisfactorily, on the grounds that the circulation of the blood is owing to contractile power of the vascular system, whether it is thought to reside in the heart, arteries, capillaries, or all of these together. But returning to my original position, I maintain that redness and swelling ought to be secondary considerations in the investigation of the inflammatory state, in comparison with the grand distinguishing character of *altered function*. It is obvious that the explanation of this important symptom, requires a previous knowledge of the mode in which the actions are performed during health. This we do not, and probably never will possess. Next to knowing what a thing is, however, it is desirable to know what it is not; and I think it may be concluded, without rashness, that the various secretions, the evolution of heat, the conversion of arterial into venous blood, the nutrition of the tissues, or the functions of digestion, sensation, and muscular contraction, are not owing to a difference in the capacity of capillary vessels, or any difference in their mechanical condition. We must ascribe the processes in question to the agency of life; and if we do this, there can be little objection to calling in the same power to account for the motion of the blood also.

Digestion was formerly attributed to a mechanical power of the stomach, but experiment and observation having proved that it possessed little or no grinding properties, the function in question was referred to a chemical operation. And when it was found that the gastric juice differed from all chemical agents, in acting equally on the most dissimilar substances, and in wanting all the characters which accompany chemical activity, physiologists were obliged to humble themselves in their ignorance, and refer digestion to the power of life. By the same way we have come to the conviction that muscular contraction is owing neither to chemical explosions, nor to mechanical expansions, but to the power of life. Now, it seems to me that we have no less reason to ascribe the capillary circulation to the same power. We cannot explain it satisfactorily by referring it to any others that we choose to assume; we have proof that this one exists, then why should we hesitate? It may be said that we cannot conceive how the power of life induces the blood to move. Can any one explain how galvanism induces fluids to move? I believe not; and yet the experiments of Reuss, together with the more recent and still more satisfactory researches of Dutrochet, have ascertained, that if two portions of fluid be connected with the two poles of a galvanic battery, one will move towards the other through a considerable obstacle,—as a thick mass of clay, a compact membrane, as a bladder. Life resembles galvanism in many of its properties,—it subverts chemical combinations,—it induces muscular contractions,—and why should it not also have a motive power over fluids?

If we attribute the capillary circulation to the power of life,—to the same power, namely, which all agree causes the various changes nutritive and functional that occur in these vessels,—then the state of inflamed parts will admit of an explanation somewhat more consistent than that usually given.

The life or nervous energy of a part being disturbed, the usual actions or changes which result from it in health are suspended or perverted; and we observe an alteration in its nutrition, in its function, and in its circulation.

From the London Medical and Physical Journal.

ON THE PROXIMATE CAUSE OF INFLAMMATION. By Dr. Bow.

With regard to the proximate cause of inflammation, I may say I am a believer in the doctrine which acknowledges diminished action in the capillaries. The objections to it, which by some are thought to be insurmountable, appear to me easy of explanation, and which never could have arisen had the advocates of the doctrine been a little less exclusive. Mere diminished action in the capillaries cannot account for all the symptoms which characterize inflammation; besides, what is there in this hypothesis to account for the diminished action itself?

Diminished action of the capillaries can only be the result of previous over-excitement, by which their contractility is exhausted on the result of sudden abstraction of this power. We know it is not the consequence of the former, but in all likelihood it is of the latter.

You are aware I maintain that, if there be a determination of nervous influence to a part greater than natural, there will be a corresponding deficiency in its determination elsewhere. As soon as the remote cause of inflammation is applied, there is a transmission of nervous influence in excess to the part: this cause acts upon the sentient nerves; consequently to their extremities is this excess of nervous influence transmitted. The office of sentient nerves is neither that of conveying contractility to muscular fibre, nor of that modification of nervous influence which effects the secretion; so that, although there be a greater than natural determination of influence to the part, there is neither an increase in the action of the capillaries, nor in the products of secretion. On the contrary, there is diminished action and defective secretion; for almost all the influence of the part is directed through the channel of sentient nerves. As soon as the capillaries are thus robbed of nervous influence, in which consists their contractility, they can no longer resist the influx of blood; and those of them whose office it was to carry colourless fluid become now distended with blood: hence the increased redness and swelling. This distention, in its turn, becomes an additional source of irritation, and thus, from a mere puncture, will inflammation spread around.

If this view of the proximate cause of inflammation be correct, it is sufficiently simple; and, with similar notions of nervous action, may we not attempt to explain many phenomena which yet puzzle the physiologist. The blush of shame or of modesty is caused by a sudden determination of nervous influence to the extremities of the sentient nerves of the face: they become, if I may so express myself, positively excited at the expense of those nerves in their vicinity whose functions are contractility and secretion: thus the capillaries, from the loss of their contractility, are suddenly distended; hence the phenomenon. As the sensation which created the blush subsides, the balance in the distribution of nervous influence is restored, and with it the proper functions of the part are renewed.

At the age of puberty, those changes in the body which have been attributed to sympathy may likewise be accounted for. At this age, genitalia evolvuntur, mammæ efflorescunt; yet this change does not result from increased action in the vascular construction of the parts, but rather from diminished contractility, following an increased determination of nervous influence to the sentient nerves, caused by the perception of sensations before unknown.

Many of the phenomena attending pregnancy may be referred to a partial loss of contractility, owing to the demand of nervous influence created by the new action of the uterus. The mammæ swell in consequence, and they do not return to their former size after parturition, because the nervous influence which before was transmitted to the uterus is now directed to the secretory nerves of the breast. When lactation ceases, however, then is the balance in the distribution of nervous influence restored; the vascular construction of the mammæ regains its contractility, and they diminish in size.

A thousand other phenomena may be explained in like manner, expecially those observed in erectile tissues.

From the London Medical Gazette.

ESSAYS ON SYPHILIS. By John Bacot, lately Surgeon to the First Regiment of Guards.

[Continued from page 53.]

Of the Nature and Effects of the Syphilitic Poison.

We are fortunately not called upon in these days to enter into a disquisition concerning the essential nature of the venereal virus; nevertheless it has occupied the attention of medical practitioners from age to age, and has invariably suffered the fate of the medical theory of the time. It has been described as a peculiar ferment—as an acid, an alkali, and as a nondescript kind of mechanical power; nay, even the particular tissue in which its ravages first commence has occupied the attention and excited the industry of no less a man than Boerhaave. I shall, however, content myself with making a few inquiries into the effects of this poison, and the laws which regulate its action, as far as we are acquainted with them. It may be expected, perhaps, that I should define what I mean by the term; but, lest I should be shipwrecked upon the same rock that has been so fatal to those who have attempted to include within a few words the substance of many complicated actions, I shall attempt no definition at all, but content myself with saying that the poison of syphilis is one *sui generis*, affecting the human race only, and subject to laws differing materially, in many respects, from those which regulate other morbific poisons; among which differences, that of being communicated an indefinite number of times is not the least considerable.

Mr. Hunter has very justly remarked that we know nothing of the nature of the venereal virus; but from its effects we know that it is a specific poison, which, applied in a fluid state, is capable of producing a disease so far similar that it may be communicated again and again, with the effect of eventually leading to certain trains of secondary symptoms, affecting different portions of the system, through the medium of absorption. Though the commerce between the sexes is the usual made by which the disease is propagated, yet it must be recollected that the positive application of the virus to an abraded surface in any other part of the body, as well as the genitals, will lead to the contamination of the system; and thus four modes of infection may be readily admitted—first, by the virus being applied to a recent wound; secondly, to the surface of a common ulcer; thirdly, to a secreting surface; and, fourthly, to a non-secreting surface; and there are good grounds for believing that in each of these modes of application a different space of time will be required to bring the poison into action—for example, a syphilitic sore on the glans and internal prepuce will more speedily and readily take place, and within a shorter space of time after the application of the poison, than on the common integument covering the body of the penis. It does not necessarily follow that the application of the venereal poison should be followed by the specific irritation in the person to whom it is applied, any more than that the small-pox, or cow-pock, should invariably be communicated by the first inoculation: we know that common inflammation will sometimes supersede the specific action; and matter either shall not be secreted at all, or of a nature perfectly innocuous; and thus it happens, that of several persons exposed to the same chance of infection one shall escape entirely, another shall have a sore which heals without difficulty, a third shall have a train of consecutive symptoms from the absorption of the poison: Peculiar idiosyncracy is here very evident, and in more than one instance I have met with persons who, without taking any extraordinary precautions, have been exposed over and over again to the same chances of infection by which their comrades have suffered, and yet who have always escaped with impunity. In an inferior degree this is to be met with every day, for we frequently find that the system exerts a power of resisting this disease, as well as others, for a long time; but that the lapse of a few years changes the susceptibility of the constitution, and then the poison produces its usual effects.

Until lately it was believed that the venereal disease, when once communicated, pursued a regularly progressive course through the different orders of parts upon which its specific action is exerted, and that without the interference of art it went on to the destruction of life. We have now ample proof that this is not always, nor indeed generally the case; and the knowledge of this fact clears up many of the difficulties in which the subject was previously involved, and enables us to dispense with Mr. Hunter's theoretical explanation, that though mercury could cure the disease when in action it could not cure the disposition to it: in other words, as Mr. Guthrie has very shrewdly observed, nothing will prevent the disease from running its course in certain constitutions. We now know, at least as far as a very extensive field of experiment entitles us to adopt the opinion, that the venereal disease can wear itself out by the mere efforts of nature; that the affections of the periosteum and bones are of but comparatively rare occurrence; and that no set of symptoms require greater nicety of judgment in their treatment than these, since there is great reason to believe that the complaint in these cases is complicated with some peculiar habit of the constitution—most commonly struma; and it is precisely in such cases that the profuse exhibition of mercury has produced such dreadful examples of mutilation and suffering. Of the parts affected by the venereal poison, when acting upon the system generally, the skin and the throat are the first in order; then the fascia, periosteum, and bones. There is no reason to believe that the viscera are ever subject to the attacks of syphilis; and of the soft bones, those of the palate and nose are the most frequently affected; of the long bones, the tibia; and the cranium is likewise frequently the seat of tumefaction, or painful enlargement of the periosteum and bone.

I have ventured to hint that the greater or less degree of acrimony in the poison may possibly contribute to alter the appearance and character of the primary sore: the word acrimony may perhaps be objected to, and with justice; but I merely employ it to express some peculiar state or stage of ulceration, the matter of which may possess properties of more violence at one time than another. Thus in cow-pock the substitution of matter for lymph, the delay of even a day or two in the inoculation, deranges the whole course of the disease; and it is not impossible also that it is owing to some similar circumstance that the propagation of one particular kind of sore is performed with so much difficulty. Thus Mr. Evans could not succeed in transmitting the ulcer which he calls the ulcus induratum, though he observes that the common raised ulcer may put on this appearance, which raised ulcer he has been repeatedly enabled to propagate in this manner.

With respect to the length of time which may elapse between the application of the virus and the establishment of the primary sore, a great difference of opinion has existed: there are good reasons for believing that, under certain circumstances, it may be delayed for some weeks, or that it may take place within 24 or 36 hours. The part to which the poison is applied will certainly make much difference; and general causes, such as excesses, fatigue, friction of the part by exercise, &c. may develop it sooner than it would otherwise have arisen without those additional provocatives. Thus far with regard to the primary symptoms: those which are called secondary, or constitutional, have been the subject of even much more discussion: there have not been wanting authors who have expressed their belief that the symptoms of syphilis might lie dormant in the system for even 30 years; and, indeed, until very lately this opinion, though restricted in some degree, has been carried to a most absurd length. It has often happened that anomalous pains, eruptions not perfectly understood, single symptoms, such as partial paralysis, premature baldness, &c. have been looked upon as unequivocal evidences of a former venereal infection; and without recurring to medical authorities I shall mention that the celebrated Sterne, in one of his letters, tells his friend that the physicians whom he consulted insisted upon his symptoms being venereal, although at that time he declared to them he had not had connexion with a woman for 15 years. I am not, however, able to assert positively, nor to draw a very well defined line, as to the period of time in which constitutional affections may develop themselves: a few months have been generally sufficient in those modern experiments to which I have had occasion to revert so often; and with regard to eruptions upon the skin, and ulcerations of the tonsils, I should be little disposed to believe, if I even met with them after the lapse of two or three years, that they were the results of a sore contracted at so distant a period. Although I might not be able accurately to trace the history, I should not be the less inclined to treat them according to the belief of their nature; because the motives of deception in these cases are so numerous and so strong that it is hardly possible, on all occasions, to expect to arrive at the truth. This leads me to make an observation on a difficulty which has arisen in the explanation of some few cases of the venereal disease in which the symptoms are at variance with the acknowledged history, thus throwing a doubt over the usual belief of the disease originating in sexual connexion. The histories of this kind are not numerous, it is true—scarcely, I think, occurring so frequently as to raise any reasonable objection against the position generally admitted; and I should rather be inclined to attribute them either to mistake, or to the obvious motives which may induce men to conceal what is disgraceful to them, than be obliged to believe that what is not true of any other disease may be found so when applied to syphilis. Nevertheless it is my duty to tell you that there are authorities, and those of no mean consideration, who believe that the constitution may become affected without any previous breach of surface, or from a bubo solely, by the communication of the secondary symptoms from one person to another, merely by their sleeping together in the same bed. Swediaur tells a story of this kind; but the whole course of a very long and extensive practice only afforded him this one case; and, for my own part, I freely avow my belief that there was some deception practised in that instance. Respecting the contamination of the system from a bubo only, though I doubt the fact, I am not prepared absolutely to deny it; but it will be necessary to defer any explanation of the mode of treating such a case until I come to speak of particular symptoms.

Two cases are related by Mr. Abernethy in which married men, having ulcers on the penis, which they asserted not to be the produce of impure connexion, communicated similar ulcerations to their wives, and symptoms resembling those of secondary syphilis ensued; and Mr. Rose tells us that, in three instances, he has known husbands communicating the disease to their wives, and in two of those instances he was not able to ascertain that there had existed any sore subsequent to marriage. Now upon such cases I would observe that there are so many motives for deception, where married persons are concerned, that nothing short of the strongest evidence should satisfy me of the possibility of such an occurrence: it is contrary to all analogy—it is contrary to the belief, the experience, and even the feelings, of the bulk of mankind; and if it were founded on facts not one or two solitary cases would be met with, but the marriage state would afford us repeated evidences of such a mode of contamination. That a married man may have a breach of surface on the penis as well as elsewhere, and that he may communicate to his wife, by coition, some similar condition of ulceration, there can be no doubt; but, unless the specific poison of lues be present, I believe that the local evil would be the termination of the disorder. It may, indeed, happen that a man may enter into a matrimonial engagement some weeks, or a month or two after having been apparently cured of a syphilitic ulcer, and that the imperfect cicatrix may again give way, and the disease be propagated in this manner; but if the contrary doctrine were true, where would be the security of the married state? Let any man look round among that class of society where the moral duties of domestic life are most commonly adhered to, and he will be convinced that such occurrences not only do not take place but are not even suspected.

In truth, the only circumstance that seems to favour this assertion is the difficulty that attends the explanation of the mode in which the fœtus in utero becomes affected: but this is a question totally distinct, and will engage our attention hereafter.

Should what I have above urged, however, fail of producing the same conviction upon others which it has affected upon my own mind, I must beg to call their attention to the following passage in the work of a late eminent surgeon, and upon this I would rest my case:—

"Almost every department of physical science," he observes, "contains propositions which require exceptions, or against which objections may be brought that scarcely admit of a satisfactory solution. Yet, notwithstanding these, philosophers do not suppose it necessary to abandon duly verified axioms because a few phenomena not perfectly understood seem to militate against them. He who shall discard all general rules because they admit exceptions, ought likewise, for the sake of consistency, to renounce all science because human knowledge is fallible and imperfect."

I am now about to present you with the arguments which have long continued to agitate the profession respecting the identity of the poisons of gonorrhœa and syphilis, a belief which, however, has not had so much influence upon practice as might have been expected, even in those who entertain that opinion: it is, however, an inquiry not only highly interesting in itself, but leads, in fact, to many useful deductions, when placed upon a proper foundation. It may be thought strange that those acquainted with the history of syphilis, and who, whilst they acknowledge it to be a disease comparatively modern, at the same time admit that gonorrhœa was known from the earliest ages, should still adhere to the opinion of the poisons being one and the same;

yet such is the fact—for upon this point both Mr. Hunter and his fierce opponent, Mr. Foot, are agreed: and their authority is farther supported by that of Swediaur and John Howard; and I hope to be able to convince you, that although this doctrine is not to be acceded to in its fullest extent, that they have more reason upon their side of the question than might be at first supposed.

The word gonorrhœa, derived from the Greek, and which literally means a flow of semen, is perhaps as badly chosen to denote the disease to which it is now applied as can well be: yet, as every body now understands what is meant by it, it is unnecessary to propose any change—and the more especially as no name has yet been suggested to which some plausible objection might not be made.

In former ages the term arsura seems to have been commonly applied to it: in the old English authors it is known by the name of brenning, or burning, which is, in fact, a translation of the Latin word just mentioned; whilst, in France, for the same reason, it has been called chaud-pisse, but now more recently catarrhe urethrale. Our common English name, clap, is derived from the French language, in which *clapiers* meant certain fixed places for the residence of common prostitutes: of late years, Swediaur has invented the word blenorrhagia for this disease, as implying a flow of mucus, but there does not appear any substantial reason for substituting this instead of the term commonly employed. Finally, in Dr. Butter's pamphlet it is designated by the more fanciful appellation of the venereal rose. So far respecting the name. The real question as to the identity of the poisons of lues and gonorrhœa lies really in a very narrow compass: it is unequivocally proved that a discharge of purulent matter from the urethra, with heat and pain in making water, was a common disease before the invasion of syphilis, and the only contest is, to decide whether any different form of gonorrhœa was afterwards superadded to that already recognised and acknowledged. To set this question at rest, experiments have been instituted by several surgeons, but unfortunately the conclusions to which they have respectively arrived have left the matter as undecided as at first—those of Mr. Hunter having been flatly contradicted by Mr. Bell. After stating my own conviction upon this point, I will make you acquainted with Mr. Hunter's experiments, together with the many strong facts by which he supports his opinion. In confirmation of his views, several powerful advocates, both foreign and English, soon appeared; and such stubborn facts are recorded by Vigarous, Sawrey, Lagneau, Hennen, and others, that I scarcely know how we can refrain from giving a qualified assent to the proposition; especially since the negative proofs brought by Mr. Bell are open to this obvious objection—that as we cannot ascertain one diseased section of matter from another by the mere appearance, his experiments might possibly not have heen made with the matter of a *venereal* gonorrhœa. It is most certain that if there be a species of gonorrhœa capable of conveying the constitutional effects of syphilis, such cases are very rare: nevertheless, that they are occasionally met with not the slightest doubt can be entertained; and these secondary affections are, when they occur, equally curable by a mild and judicious mercurial treatment. Yet, admiting this to be true, there does not appear to be any reason for altering our practice in the general treatment of gonorrhœa; since in the inflammatory stage, whether (if I may assume the expression) it be venereal or not, mercury would be equally improper and useless; and considering also the rare occurrence of secondary symptoms, and how easily they are to be controlled as they arise, it is certainly on every account most judicious to wait for their approach.

When we consider the structure of the female parts of generation, and their liability to discharges of various kinds, the possibility of such discharges arising spontaneously, as is proved even by female infants of three or four years of age, under certain circumstances of constitutional ailment, being affected both with profuse and acrimonious discharges from the pudenda, an occurrence which I have witnessed upon many occasions, we surely cannot be surprised that the disease usually termed gonorrhœa, that is, a purulent discharge, from the urethra, attended with heat of urine, should be so commonly the result of promiscuous connexion. Nor is it in the female only that such discharges will arise from accidental causes, for all surgeons well know that an irritable condition of the male urethra will produce the same effect in a man whenever connexion takes place even with a perfectly sound and healthy female; and no doubt the disease so produced might afterwards be propagated by coition. In some animals, the dog especially, we see occasionally, from mere excess of sexual indulgence, a somewhat similar disease established; which is, in truth, the mere effect of any irritation, however simple, applied to the tender and very susceptible membrane of the urethra. If this be true, and I firmly believe that nothing has been exaggerated or misrepresented, I can readily understand how it came to pass that, soon after the invasion of syphilis, authors began to distinguish gonorrhœa as a symptom of that complaint: not that they were previously unacquainted with a similar disease, but that they then began to observe that something more than usual attended the disease from that period, so that it was occasionally followed by the symptoms of lues; that it was often the first diseased appearance that presented itself, and was often accompanied with or succeeded by chancres. Such cases are not, indeed, unfrequent now: it was but last week that an instance of this kind presented itself to me in the person of a man who was labouring under gonorrhœa, and who, after the lapse of a few days, when the discharge was beginning to lessen, observed a small pimple on his glans penis, which proved to be a troublesome ulceration, with all the appearance and character of chancre. Writers upon syphilis abound with similar histories. The length of time that elapses between the application of the gonorrhœal matter and the breaking out of the ulceration, is occasionally very considerable. Mr. Evans records such an example, and in Mr. Hunter's Treatise several others are to be found.

Thus I am inclined to believe that although the vast majority of cases of discharge from the urethra, attended with pain in making water, which are the consequence of sexual intercourse, and have therefore the common name of gonorrhœa applied to them, are, in truth, merely local affections of different degrees of intensity and duration, depending much upon the peculiar temperament of the person affected by it, and other accidental causes; yet still I acknowledge the existence of a species of gonorrhœa to which the term of venereal, or syphilitic, has been applied; and I farther believe that this species may lead to ulcerations of the throat and palate, to opthalmia, to eruptions, to swellings and pains in the joints, and, finally, to affections of the periosteum and bones. If I am asked why (granting this explanation to be true) it happens that sometimes this gonorrhœa takes place after connexion, and sometimes ulceration only ensues, and why the cases in which secondary symptoms occur are so few, I can only reply by calling your recollection to the fact already proved by the experiments made in the army —that not one ulceration out of six or eight, or even ten, according to some of the reports, are followed by the decided proof of the disease having been syphilitic—that is, by secondary symptoms. Neither do I know any good reason that can be given why one kind of ulcer should prevail usually in one climate, whilst it is rarely met with in another: but there can be no doubt, from the medical records of the last age, that gonorrhœa, followed by lues, was at that period very frequent; indeed so much so, that the satirists of those times assert it as an acknowledged and established fact. Thus Dr. Donne says,

———time, which makes a calf an ox,
And travelling on, confirms a clap to pox.

I merely quote these lines to prove the universality of the belief. The evidence of Wiseman, Sydenham, Paré, and others, I, however, consider to be unanswerable, when mere matters of fact are to be decided upon. Should these observations have but little weight, I would beg to draw your attention to an observation made by Mr. Carmichael, who, in alluding to the infrequency of secondary symptoms after gonorrhœa, says that the security of the constitution probably arises from the structure of the part to which the poison is applied, inflammation and suppuration being the means by which nature forbids the introduction of morbid poisons into the system, analogous to what is found to take place in the cow-pock inoculation, where, if we wait till the pustule has suppurated, we shall fail in communicating the disease. This explanation is ingenious, and would be perfectly satisfactory but for one circumstance— it does not account for the infrequency of secondary symptoms following gonorrhœa. Now, in comparison with what we find recorded in the sixteenth and seventeenth centuries, another conjecture, for it cannot be called by any other name, has been formed upon this subject: it has been supposed that secondary symptoms only ensue in those rare cases of ulceration situated within the urethra, accompanied by gonorrhœal discharge. These sometimes exist within sight, or are at least palpable externally to the touch; neither is it impossible that they may be occasionally situated lower down in the passage, but this requires farther confirmation. Now from all that has been urged above, it appears to me, that soon after the invasion of syphilis a kind of gonorrhœa was occasionally met with which led to secondary symptoms; that the distinction between this species and all other purulent discharges from the urethra being no otherwise obvious to the senses than by the ulterior consequences arising from it, was speedily lost sight of, every such discharge came to be considered as venereal, and the patient was subjected, without hesitation or deliberation, to a course of mercury. The progress of time having led to the discovery that this was a mistaken view of the subject, and that discharges from the urethra did not, in fact, in the great majority of instances, lead to any constitutional affection, the profession ran into the opposite extreme, and now deny that gonorrhœa ever is to be accounted a symptom of syphilis.

Having now, in as few words as possible, endeavoured to explain to you my own views upon this subject, I will detail to you the conflicting evidence which you will meet with in different treatises, and you will then be able to judge how far I have formed a just estimate of the labours of these various writers, and on which side of the question the balance of evidence appears to lean.

Mr. Hunter, in a very early part of his work, declares as follows:—"If any doubt still remain with respect to the two diseases being of the same nature, it will be removed by considering that the matter produced in both is of the same kind and has the same properties; the proofs of which are, that the matter of a gonorrhœa will produce a chancre, or lues venerea; and the matter of a chancre will produce either a gonorrhœa, a chancre, or the lues venerea." This assertion is followed by the relation of the case of a gentleman who twice contracted gonorrhœa, of which he was, upon both occasions, cured without mercury: about two months after each he had symptoms of the lues venerea; those in consequence of the first affection were ulcers in the throat, which were removed by the external use of mercury; the symptoms in consequence of the second were blotches on the skin, for which he employed the mercurial ointment, and was cured. In order to account for these phenomena, Mr. Hunter observes that there is a different kind of action of the parts affected when subjected to irritation: the gonorrhœa always proceeds from a secreting surface, and the chancre is formed on a non-secreting surface; and in this last the part must become a secreting surface before matter can be produced. Such is his theory. In order, however, to prove the truth of his assertion, he performed the following experiments, which I shall relate in his own words, with this previous remark—that it is much to be lamented that he did not suffer the maladies he produced to pursue their natural course, without the interference either of caustic or mercury; but which treatment he adopted, as you will perceive, in consequence of a preconceived notion that by so doing he proved the venereal nature of the symptoms. Mr. Hunter tells us that, in order to ascertain several facts relative to the venereal disease, he made two punctures with a lancet dipped in the matter of gonorrhœa, on the penis: one puncture was on the glans, the other on the prepuce. This was on a Friday: on the Sunday following there was a teazing itching on those parts, which lasted till the Tuesday following; in the meantime, the puncture being examined, there seemed to be a greater redness and moisture than usual, which was imputed to the parts being rubbed. Upon the Tuesday morning that part of the prepuce where the puncture had been made was redder than natural, thickened, and had formed a speck; by the following Tuesday the speck had increased and discharged some matter, and there seemed to be a little pouting of the lips of the urethra, also a sensation in it on making water, so that a discharge was expected from it. The speck was now touched with lunar caustic, and afterwards dressed with calomel ointment. On Saturday morning the slough came off, and it was again touched, and another slough came off on the Monday following. The preceding night the glans had itched a good deal, and on Tuesday a white speck had appeared where the puncture had been made; this speck, when examined, was found to be a pimple full of yellowish matter. This was now touched with the lunar caustic, and dressed as the former. On Wednesday the sore on the prepuce was yellow, and therefore was again touched with the caustic. On the Friday both sloughs came off; the sore on the prepuce looked red, and its base not so hard, but on the Saturday it did not look quite so well, and was touched again; and when that slough fell off it was allowed to heal, as well as the other, which left a dent in the glans. Four months after the chancre on the prepuce broke out again, and very stimulating applications were tried, but these seeming not to agree with it, and nothing being applied, it healed up. This course it pursued several times, but the sore on the glans never broke out again. Whilst the sores remained on the prepuce and glans, a swelling took place in one of the glands of the groin on the right side: mercury was rubbed in for some days, and the gland subsided; it was then left off. The gland, after some time, began to swell again; as much mercury was rubbed in as appeared sufficient for the entire destruction of the gland, without giving enough to prevent the constitution being contaminated. About two months after the last attack of the bubo a little sharp pricking pain was felt in one of the tonsils on swallowing any thing; and on inspection a small ulcer was found, which was allowed to go on until its nature was ascertained, and then recourse was had to mercury, which was rubbed in on the same leg and thigh as before, to secure the gland more effectually. As soon as the ulcer was skinned over the mercury was left off, it not being intended to destroy the poison, but to observe what parts it would next affect. About three months afterwards, copper-coloured blotches broke out on the skin, and the former ulcer returned on the tonsil: mercury, in a palliating manner, was again had recourse to. It was left off a second time, and the same symptoms recurred; and therefore mercury was now taken in a sufficient quantity, and for a sufficient length of time, to complete the cure.

This explanation of Mr. Hunter's was for some time deemed to be conclusive, until Mr. Bell published the result of experiments which he had instituted; the result of which were in direct opposition to the former. These I will relate presently, but I will first pursue the evidence on Mr. Hunter's, on the affirmative side of the question. Mr. Hunter's opinions were espoused by Mr. Sawrey; more recently by Mr. Whately, as well as by Mr. Jacobs, who published "a Demonstration of the Identity of the Diseases at Brussels," a few years ago. I have anticipated most of the arguments made use of in those publications; but there is one remark made by Mr. Sawrey which cannot, in my opinion, be well replied to. He says, that if in any *one instance* the inoculation of gonorrhœal matter has produced chancre, there is an end to the question.

Mr. Jesse Foot, in treating this subject, makes use also of the following decisive language:—"Those who doubt that a virulent gonorrhœa is the venereal poison acting locally on a mucous membrane, might also doubt that it is produced in consequence of a connexion between a diseased person and a sound one; or in consequence of the infecting fluid being conveyed from a diseased subject and lodged on a mucous surface of a sound subject, so as to take effect;" and then he adds, in his own peculiar style, "gonorrhœa and chancre *are* both the result of venereal poison, acting upon parts under different modifications; the cause of both symptoms is the same, and the effects will be according to the anatomical structure of the parts. Venereal fluid applied to the urethra produces a discharge of mucus; that fluid lodged on the cutis produces a chancre." So far for his assertions: he afterwards renews the subject in a more argumentative manner, and says—"It has been a question of late years whether the infecting discharge from the urethra is capable of producing a chancre on *another subject*, or whether chancerous matter is capable of producing a chancre on *another subject*—whether these two symptoms be produced by the same virus, acting upon different parts. By those who have doubted they were the same gonorrhœal fluid has been applied to the cuticle and cutis, for the purpose of proving whether chancre could be produced from it or not; and the matter of chancre has been applied to mucous parts, for the purpose of proving whether gonorrhœa could be so produced. When this experiment was made by one person it succeeded, and when it was made by another it failed; a third person, who was apprised of the two former experiments, still doubts whether the point in question is clear or not, and therefore thinks that the fact, to be clearly established, wants stronger confirmation. We are not told by them whether the experiments were made on the same subject or another. It should not be forgotten (he continues) that a fact may fail to be proved through an error in the experiment: in this question the truth could be well ascertained if one experiment succeeded out of an hundred. A man for instance, may deny that a single ball discharged from a gun will kill a bird flying, and the trial might be made by a bad shot at least a thousand times without success; therefore, if the experiment has once been found successful, all contest upon the question must be at an end, if you really give credit to the person who made it." Mr. Foot here takes occasion to lament that instead of making experiments the natural order of the phenomena had not been watched carefully; and he asks, "Is it impossible to examine a woman who, from a natural connexion, has infected a man, and from that examination to decide whether she infected him from a gonorrhœa or a chancre? Is there any difficulty in discovering a chancre if she has one; and if she has no chancre, must not such infection have been from gonorrhœa?" Mr. Foot is, however, too candid a writer to overlook the strongest objection to this belief, and he states it fairly in these words;—"One reason, and I think upon the face of it the most plausible of all others, why the fluid of chancre and gonorrhœa may be said not to be the same, is, that a man may have a gonorrhœa without a chancre, and a chancre without a gonorrhœa; for if both fluids possess the same virus, how happens it that chancres do not inevitably accompany gonorrhœa, and gonorrhœa chancres, on the same subject?" His answer to this objection is, first, that the order of the appearance of the symptoms differs materially—that gonorrhœa will most readily take place, then sores on the frænum and under part of the prepuce, and afterwards, but more rarely, on the body of the penis itself, and this is owing to the different construction of the parts; from hence he infers that as the urethra is most likely to be affected by any stimulus, therefore, in the latter stages of a gonorrhœa, the male urethra will be likely to be acted upon by it, when other parts would not. This he offers as one reason, and another he deduces from the greater probability of the virus being undisturbed in that situation. His third argument is derived from the greater or less susceptibility in the constitution of the person to whom the virus is applied.

On examining the work of Swediaur, we also find him very decided in advocating this side of the question; and I shall next present you with a compressed account of what he has urged in support of it. I will not apologise for these numerous quotations, because the nature of the inquiry is necessarily intricate: the accounts are very contradictory as given by different authors, and it is a question both curious and important. Swediaur declares that he has seen several examples of ulcers in the throat, and other evident symptoms of lues appearing, in consequence of a blenorrhagia, without there having been the least appearance of chancres either on the thighs or genital parts. These accidents, according to his observation, are generally observed after blenorrhagias which have been more violent than usual, and for this reason the general infection of the body occurs more frequently in the female than the male; and he declares that he has treated many women who, without ever having had chancres, have had, in consequence of severe blenorrhagias, ulcers of the tonsils and other syphilitic symptoms, and have been cured by the use of mercury; he has also seen the same happen to men. I know many cases, he goes on to say, where patients affected with a blenorrhagia without any ulcer communicated chancres, and reciprocally. It happens unfortunately, that a prostitute gives one man a clap, another chancres, and a third both at once. Another fact also strengthens this belief: if a man, having a blenorrhagia, does not keep the glans and prepuce very clean, it often happens, even after the discharge is considerably diminished, that chancres come on, which at length produce buboes, and other syphilitic symptoms; and, finally, he appeals to a direct experiment of Dr. Harrison, who, having introduced into the urethra matter taken from a syphilitic ulcer in the glans, by this means produced a blenorrhagia.

Thus far Dr. Swediaur's facts go to establish this position, and he next endeavours to explain why it is that mercury is not necessary for the cure of a clap, and how it happens that secondary symptoms so seldom follow this form of the complaint; this he believes to be owing to the structure of the parts, as well as to the internal surface of the canal being defended by a quantity of mucus, by which the virus is much diluted. The sides of the urethra are defended, and consequently the formation of an ulcer prevented; he might also have added that nine cases out of ten of discharge from the urethra are not really cases of syphilitic gonorrhœa.

Both Vigarous and Lagneau, men of extensive experience and careful observation, relate cases which have come under their observation tending to confirm the above arguments; the former mentions an instance in which six Frenchmen had connexion with one woman, one after the other; the first and fourth had chancres and buboes, the second and third had gonorrhœas, the fifth chancre, and the sixth bubo only. Lagneau expresses his belief that in the majority of instances the virus of gonorrhœa is the same as that of syphilis; and, finally, Dr. Hennen relates a case in which three men had connexion with the same woman within an hour; the first escaped, the second had chancres, the third gonorrhœa: one circumstance, however, certainly detracts from the merit and conclusiveness of these cases; it is not clearly ascertained that the women were affected either with chancre solely, or gonorrhœa solely. In corroboration of what I have already urged I would beg to point out a passage from Mr. Evan's pamphlet, in which he informs us that at an inspection which he attended at Valanciennes, out of an hundred women who were examined there were only two with ulcerations; and in the Departmental Hospital, at Lille, also, out of upwards of an hundred women which it contained when he visited it, there were only three cases of sore of that kind which he denominated venerola vulgaris; gonorrhœa, excoriation, &c. composed the remainder; and yet the military hospitals presented their usual number of men affected by ulcerations.

So far, then, on the affirmative side of the question. Now, to rebut the above strong chain of evidence, we have only the experiments of Mr. Bell; and, as I before observed, if they were twice as numerous they are not sufficient to overthrow the positive testimony of so many writers of credit and authority; because, as it is fully admitted that a gonorrhœa may be produced quite independently of syphilitic virus, we cannot be sure that Mr. Bell's experiments were made with that species of the disease, so that a large number of negative proofs never can overcome the evidence of one positive proof in this inquiry. Mr. Bell's first experiment was made by taking some of the matter of chancre upon a probe and applying it within the urethra; and for eight days no uneasiness was produced, but at the end of that time it was discovered that a sore was established in the urethra, followed soon after by another on the opposite side of the canal, both of which were cured by mercury.

The second experiment was made by introducing some gonorrhœal matter between the prepuce and the glans: in a couple of days some inflammation was produced, but it disappeared in a short time: this experiment was repeated with the same result. Two medical students undertook the following experiments: a small dossil of lint, soaked in gonorrhœal matter, was by each of them inserted between the prepuce and glans, and allowed to remain there for twenty-four hours; in one case inflammation ensued, followed by what is called gonorrhœa spuria, or external gonorrhœa: in the second case slight inflammation took place, but the matter found its way to the urethra and gonorrhœa ensued, so that this experiment is altogether nugatory. In the next experiment the matter of gonorrhœa was inserted by a lancet between the skin of the prepuce and into the glans, but after three trials no chancre was produced; and, lastly, the matter of a chancre was introduced upon the point of a probe about a quarter of an inch into the urethra; no gonorrhœa took place, but in five or six days a painful chancre was perceived, followed by a bubo and a train of constitutional symptoms. I need not here recapitulate what I have before said in alluding to these discordant accounts: it is not by experiments upon so limited a scale that this point can be determined; and I must again repeat, that although there are some circumstances which, according to the views I entertain, are not clearly explainable, that upon the whole the presumption in favour of the identity, *not of all gonorrhœas*, but of one species with the matter of syphilis, is very strong indeed, and is confirmed fully by my own experience, which in this respect agrees with that of Mr. Carmichael; and this may possibly have been one of the reasons which induced that gentleman to look for a multiplicity of venereal poisons.

Many writers have endeavoured to distinguish the syphilitic gonorrhœa from those arising from other causes; and Swediaur has enumerated no less than eight species of the disease: among these he mentions a scorbutic gonorrhœa, which he considers to be the same complaint mentioned by Moses in the 15th chapter of Leviticus; and which is called, in the older translations of the Bible, "running of the veins." The fact may possibly be as he conjectures; at any rate there can be but little doubt that some kind of discharge from the urethra was implied by the passage above mentioned. In addition to this species, the same author speaks of a gouty and rheumatic gonorrhœa, one also arising from acrid substances taken internally, from some mechanical violence in coition, or from an attack of hæmorrhoids. Among the substances accused of having the property of sometimes producing the disease, a German writer mentions guiacum taken in large doses internally. The fact may be so, but we have no cases in this country to corroborate such an opinion; and we generally seek out other causes more common, and more in the course of nature.

You will perceive that this enumeration of species cannot be very useful practically; but there is certainly one advantage in making such distinctions: by recollecting the various causes which may produce the disease, we may often be induced to give a cautious opinion, and occasionally be able to save a patient from much uneasiness, or even from infamy or ruin; above all, we should not forget that female children even are sometimes affected with a severe discharge from the pudenda, which is very obstinate, being usually accompanied by other strumous or cachectic symptoms. Hence, then, it is very important to take every collateral circumstance into consideration in pronouncing upon the nature of a discharge; since it has happened that a suspicion of this disease has been made the ground of accusation against many individuals very unjustly.

In the instance of adults of either sex, it is, however, obviously impossible in every case, or, indeed, in most cases, to form an opinion as to what discharges may be followed by after consequences, or to distinguish them from those that will not: the mere intensity of the symptoms is not always a safe criterion to judge by. All then that we are enabled with certainty to say is this, that it is possible to pronounce on many occasions that a gonorrhœa is not venereal: thus, for example—if a discharge came on a few hours only after connexion, if it has continued several days without inflammatory symptoms, if the patient has been liable to some discharge after any excess either of venery or of wine—in all such cases the probability is that the patient labours under some other diseased condition of the urethra, and that, though the intercourse of the sexes may have been the exciting cause, still there may be no imputation upon the cleanliness of the female.

We are now prepared to enter into a description of the symptoms of gonorrhœa, of those diseases to which it often gives rise, and the mode of treating them.

Of the Symptoms of Gonorrhœa.

The first intimation of the approach of this disease is a sensation of titilation and itching in the urethra, at no great distance from the orifice, which in the course of a few hours, or a day or two, is followed by a little puffiness or tumefaction of that part, which also appears red and inflamed: to this succeeds a discharge of a light yellowish coloured mucus, which daily becomes thicker, and often assumes a greenish hue. In the meantime, that sensation which was at first only an itching soon amounts to a painful sense of burning after passing the urine; and this continues for a greater or less space of time, depending upon the intensity of the symptoms. The patient at night especially suffers greatly from frequent and painful erections, and if the inflammation becomes still more violent the symptom called chordee takes place; even in the day-time the disposition to painful erections often continues, and the penis is altogether tumid and tender, more especially the glans, which assumes a deep-red colour. At this period the discharge is generally very considerable; the pain in passing the water is acute, the glands in the groin frequently become tender and enlarged, and occasionally the inflammation is extended along the urethra to the membranous portion, sometimes even to the bladder itself. Such is usually the progression of the symptoms of this painful disease until it reaches its acmé, and the explanation of them all must be sought for in the peculiar structure and functions of the part affected: they arise from an active inflammation of a mucous membrane in a part whose functions are complicated. Mr. Hunter believed that the inflammation in the urethra did not extend beyond one inch and a half from its orifice, which he called the specific distance. I need scarcely observe that there is no just reason for limiting it to that precise extent, and that the quantity of inflammation varies in almost every individual. Nevertheless, it is asserted in some German authors of recent date, that the true seat of the venereal gonorrhœa is in the mucous glands of Morgagni, which are situated immediately under the frænum; and Swediaur, who himself mentions this, believes that the disease does not usually extend farther, excepting in consequence of bad treatment on the part of the surgeon, or of indiscretion on that of the patient. Great contests have also existed as to whether the matter secreted be pus or mucus; but to what purpose are these discussions? The discharge is similar to that which is always afforded by mucous membranes in a state of inflammation; it is independent of any breach of surface. For many years, indeed, gonorrhœa was believed to be what its name implies—a discharge of semen; nor was it until Mr. Sharpe demonstrated the possibility of the formation of pus, without a previous breach of surface, that it began to be suspected that the discharge might not proceed from ulcerations in the canal. Since his work was published in 1753, this fact has become universally acknowledged; and we are not now, perhaps, sufficiently alive to the possibility of an ulcer occasionally occupying this situation in conjunction with an inflamed condition of the membrane itself. However, it must be recollected that this increased secretion is poured out from the mucous glands of the part as well as from the general surface of the membrane itself. The chordee is a symptom usually felt only when the inflammation runs high, and is caused by its affecting the corpus spongiosum urethræ; in consequence of which an extravasation of coagulable lymph into its cells takes place, which uniting them together, destroys its power of distention; and, therefore, a curvature takes place, the glans being drawn downwards by the frænum. In some instances the distention of the corpora cavernosa is so great that either the frænum is ruptured, or some blood-vessel gives way in the urethra itself; in either case the hæmorrhage which ensues contributes to mitigate the symptoms. The difficulty in making water, the smallness of the stream, its occasional bifurcation or scattering, all denote a greater or less degree of the inflammatory symptoms; the dimensions of the canal being lessened by the general thickening of the membrane, as well as by the enlargement of the mucous glands, and of those called Cowper's. The enlargement of the inguinal glands would appear to be the direct effect of irritation, and it is observed that in this disease they very seldon proceed to suppuration. In those persons who have the prepuce very long, an œdematous swelling of that part sometimes takes place, which puts on a semi-transparent shining appearance, and this is called a crystalline. Occasionally, also, matter is secreted in great quantity between the prepuce and glans, constituting external or spurious gonorrhœa; this may exist by itself; unaccompanied by common gonorrhœa, is the result sometimes of mere want of cleanliness, and wholly independent of sexual intercourse. The inflammatory symptoms of gonorrhœa, when they have gone on increasing for eight or ten days, usually begin to subside, though in some very severe cases the pain will continue to increase, and is severely felt in the situation of the prostate gland and neck of the bladder. An almost perpetual desire to make water torments the patient, which is passed only a few drops at a time, very often mixed with blood; but in the most aggravated form of the complaint, in addition to these symptoms the discharge appears actually to be arrested by the violence of the inflammatory action; the whole penis is tense, hot, and painful, and the patient can neither sit nor walk without great uneasiness.

The length of time that may elapse between the application of the virus and the breaking out of the discharge various in different individuals, and under different circumstances; from four days to a week may be considered as the most usual period, but there are not wanting many well accredited histories where the appearance of the discharge was delayed for three or four weeks, or even longer. Mr. Hunter relates a case in which six weeks elapsed before the disease became established. With regard to the possibility of distinguishing this, the syphilitic gonorrhœa, from other discharges which simulate it, I have already spoken; and have only to add, that if the discharge arose within twenty-four hours after connexion, if the running was slight, or the pain in making water trifling, going off again in a few days, I should not hesitate in pronouncing it to be void of venereal infection; by which I mean, simply, that no future ill consequences were to be apprehended from it, since I am perfectly certain that any form of discharge may be propagated by coition. There are some few symptoms not always, or perhaps generally met with as consequences of gonorrhœa, which it will be necessary to mention; these are phymosis, paraphymosis, hernia humoralis, or swelling of the testicle, and inflammation or enlargement of the prostate gland. The first of these symptoms is not in general a very troublesome symptom in gonorrhœa; it may exist in combination with an œdema of the part which I have before alluded to, or without it. The paraphymosis is the reverse of the former; it is equally the result of inflammation in those who from neglect have suffered the glans to remain uncovered. The prepuce swelling whilst in that situation is incapable of being returned over the glans, and every hour that this condition of the parts is permitted to remain the difficulty is increased, and the result is sometimes an extensive sloughing of the prepuce, by which the stricture upon the glans and body of the penis is relieved. The swelled testicle is a symptom not necessarily belonging to this complaint alone, since it arises from many other causes, but yet it not uncommonly occurs in the progress of a gonorrhœa: one testicle only is affected in most instances, and the tumefaction generally takes place suddenly, and from the most trifling cause, or sometimes, indeed, without our being able to trace it to any error in diet, or exercise on the part of the patient. It most usually comes on when the inflammatory symptoms are beginning to subside, or even later; and its immediate effect is a sudden and almost total stoppage of the discharge from the urethra. The pain commences usually in the epidydimis, and from thence spreads to the body of the testicle and the spermatic cord, so that there is often considerable pain felt in the loins, with a considerable accession of febrile heat, and increased arterial action. In violent cases even the stomach sympathises in the attack, and there is both nausea and vomiting. The swelled testicle, however, usually terminates by resolution, and a restoration of the discharge from the urethra is often the precursor, and always the consequence, of its subsidence.

Much has been said by authors of the cause of this symptom: it has been attributed to sympathy, to metastasis, and also to a continuation of the specific action of the virus communicated through the vas deferens. I shall here observe that the first explanation appears to me very untenable; since, as a late writer observes, sympathy implies an affection of one part for the benefit of the other; so that if sympathy were the cause, it should always come on when the urethra is most inflamed; when the scalding and chordee are at their height; and the swelling of the testicle should abate when these abated; but the very reverse of this is the case. It is singular, however, that the acute objector to this theory should have offered one equally exceptionable, and which is contradicted by every-day's experience. He affirms, (I speak of Mr. Foot,) that the orifices of the vasa deferentia which open into the urethra are shut against the effects of all stimuli, and that it is from accident alone that venereal stimulus can possibly be admitted, but if once it gain admittance, "I am of opinion (he adds) that the venereal stimulus can act as well along the vas deferens; which will proceed to the epidydimis, and affect that and the testicle. If virus can pass through lymphatics, in consequence of what is called absorption, there is no difficulty in presuming that it may pass along the vas deferens by capillary attraction; and I am also of opinion, that part of the discharge which follows a swelled testicle, and to which a swelled testicle from a venereal cause owes its restoration to a sound state, flows through the vas deferens, and that it is poured from thence into the urethra. I am also of opinion that when the venereal stimulus gains admittance within the orifice of the vas deferens, the progress of the inflammatory symptoms is as slow there as it is through the urethra after gonorrhœal infection has been first received."

Now I need scarcely point out to you how little we learn from this hypothesis: it does not explain why one testicle only is usually attacked; it throws no light upon the swelling of the testicle that follows upon passing a bougie; and it explains nothing with respect to the coming on of this symptom in cases comparatively slight, where we have no reason to believe that the inflammation extends to the orifice of the vas deferens. We have nothing better to offer in explanation of this symptom than the word metastasis, which in truth is only changing one word for another, and brings us no nearer to the philosophy of the change than if we merely contented ourselves with the fact that there is a translation of disease from one part to another.

Respecting the more obscure and rarer symptoms of gonorrhœa, such as inflammation of the prostate glands, abscesses formed in the urethra itself, or in one or both of the corpora cavernosa, the former is chiefly marked by a dull and heavy pain in the neighbourhood of the anus, with a sense of weight in that part; and the enlargement of the gland may be detected in some instances by passing the finger into the rectum. The formation of abscess in the urethra is denoted by an increased pain, fixed and circumscribed to one particular spot in the urethra, and there is a good deal of constitutional disturbance accompanying this symptom.

Such are the principal collateral circumstances attending the rise and progress of gonorrhœa when not interfered with by art: a few words, however, are necessary to be said respecting the disease when attacking the female; in that sex it is not by any means so complicated a disease, nor attended with so many troublesome symptoms, as when the male is the sufferer. It has been supposed by many that a gonorrhœa may be entirely confined to the vagina, and that a woman may not be aware that she is infected. This, though it would enable us to explain a few more cases, I should conceive to be a very unlikely circumstance, or at any rate that a woman could not remain in ignorance upon this point for any length of time. The most usual symptoms in the female are, besides those of heat, redness, scalding in the water, and discharge; swellings of the labiæ, nymphæ, and clitoris: and owing to the structure of the parts, and the large surface from which the discharge is poured out, excoriations are also very common: buboes also occasionally arise, and the inflammation may, as in the other sex, extend to the bladder. The discharge is oftentimes very obstinate, and difficult to eradicate entirely; so that it is not an easy matter always to determine when the disease has entirely ceased; for, as Mr. Hunter has truly observed, the appearance of the parts will often give us but very little information; and hence it is that females are frequently enabled to escape detection when suspected of having communicated the disease. The progress, the symptoms, and their treatment, will form the subject of the ensuing essay; but I trust I shall not be thought needlessly prolix if I recapitulate shortly those reasons which induce me to believe in the existence of a syphilitic form of gonorrhœa. My argument runs thus: from observing the liability of the female to many discharges simulating gonorrhœas, such as may be met with in female infants, and which is so universal in hot climates, and so common also in the male subject, when labouring under stricture or other diseased conditions of the urethra, I concluded that a great majority of those cases usually classed as gonorrhœa were not syphilitic, although produced by connexion. 2dly. That these discharges had been acknowledged from the earliest ages; and, therefore, that the universal belief entertained by medical men in the sixteenth and seventeenth centuries, as to gonorrhœa being the most usual primary symptom of syphilis, arose from their observing that secondary symptoms did actually arise from that cause, and that they therefore came to consider and to treat every discharge from the urethra as venereal; whilst we, who seldom observe these consequences, have gone into the opposite extreme, and now deny that gonorrhœa ever leads to secondary symptoms at all. 3dly. I appealed to direct experiment, proving that the matter from chancre had produced gonorrhœa, and *vice versâ;* and provided we can believe that such an occurrence has once taken place the dispute is settled, since the chances of making those experiments with matter not syphilitic are so numerous that I should not be shaken from my opinion merely by the negative result of a given number of failures. 4thly. That as far as inspection can warrant the conclusion, secondary symptoms have arisen in cases where no detectable breach of surface has existed in the female. 5thly. That numerous histories are given wherein men connected with the same woman have had in one instance ulcerations; in a second, merely a discharge; and lastly, that in my own practice I have seen more than one unequivocal example of ulcers in the throat, eruptions on the skin, ophthalmia, and even affections of the periosteum, following gonorrhœa only. But still I do not advocate the use of mercury in any form of that disease, because I know that it does not exert any specific influence over the symptoms; and that as we cannot detect one species of gonorrhœa from another by any visible circumstance, all we have to do is to reserve our mercurial treatment for those cases where secondary symptoms do arise, and that we are not to shut our eyes to their real nature because we cannot trace them to some form of primary ulceration.

[*To be continued.*]

From the London Medical Gazette.

ON THE SPECIFIC EFFECT OF ATMOSPHERIC POISON ON VARIOUS STRUCTURES OF THE BODY, *as connected with the production of Disease—especially Fevers.* By Edward Seymour, M.D.

(Continued from page 34.)

We have hitherto been considering the immediate effect of poisons on particular structures of the body, and we have seen that fever is produced by morbid atmospheric poisons, either arising spontaneously or from effluvia, and that after death different structures have suffered lesions, such lesions being different in different epidemics. If we now observe for a moment the actions of those substances, which in large doses occasion death, but in small doses are employed as remedies in disease, we shall see the law of action on particular structures, and even on different parts of those structures, fully exemplified.

Purgatives act by increasing secretion from the mucous glands, and the exhalation from the exhalant arteries of the intestines; but these not only thus produce their effect, but also stimulate the muscular coat of the intestines to stronger contraction, in order to expel their contents. Some of the purgative substances principally produce the first—some the second. Not only is this the case, but many of the class of purgatives act on one and the same part only of the intestinal canal. It is needless to illustrate this by the action of aloes, or of the saline purgatives.

Of the class of emetics we know that very many of them produce vomiting, either when used in friction and carried into the system through the blood vessels, or taken immediately into the stomach.

Of those remedies which appear to act directly on the nervous system, we find that, applied externally or taken internally, it is on the same structure their effect is produced. Thus belladonna, stramonium, hyosciamus, will cause, under either of these conditions, the well-known effect of dilatation of the pupil of the eye.

To return:—We may then consider epidemic fever to be the result of a poison either from the changes of the atmosphere, the vicinity of marshes, the exhalations from dead animal or vegetable matter, or from living bodies in a state of uncleanliness, when crowded into a small space; and these causes may be believed to act with greater or less violence according to the state of disease or health in which the individual attacked exists, the position in which he is placed with regard to objects around him, as of labour or exposure, and the moral impressions by which he is interested, as anxiety, fear, care, &c.

This poison seems to act according to different epidemics and seasons on different parts. The nervous fever of Cullen appears to arise from injury done to the brain, ending in lesion; the bilious remittent fever, the gastric fever of Burserius, the mesenteric malignant fever of Baglivi, the gastro-enterite of the present French school, from the impression of the poison absorbed on the mucous membrane of the intestines, especially of the small intestines, from whose inflammation and subsequent lesion the danger of the disease arises; the catarrhal fever of authors, the influenza of modern times, from affection of the membrane which lines the fauces, throat, trachea, and bronchi, and the nares—the inflammation and subsequent puriform secretion producing death.

It does undoubtedly occur that in some cases of the remittent fever which we have noticed, lesions both of the brain and bowels have been discovered after death; but this is certainly in a very small number, and in a very large proportion the morbid appearances are confined to alteration of structure in the mucous membrane of the small intestines. The sympathy which exists between the brain and the bowels is greater in some individuals than others, and hence we find that in some patients the delirium attending this form of disease is very severe, and the functional disturbance thus induced occasionally, but in rare instances, produces effusion in the brain. The very large proportion of cases in which the mucous coat of the intestines is the only part injured, seems to prove that the injury occasionally done to the distant part may arise from the peculiar sensibility of the individual, hereditary disposition, or previous disease. Were the converse of the position true, in children dying of hydrocephalus arising from inflammation, or at least congestion of the brain, or pure cases of phrenitis, we ought at least occasionally to find the bowels injured nearly in proportion to the violence of the head affection.

I shall proceed now to consider, from the histories of epidemics handed down to us, and from the few instances in which inspections after death have been recorded, the viscera on which the poison of the atmosphere, in different forms of fever, acts when absorbed into the system; the diagnosis, and the treatment which is to be founded, or has already been employed, on such principles.

Fever in which the Miasma, or Poison of the Atmosphere, acted immediately on the Mucous Membrane of the Fauces, Nares, Bronchi, and occasionally, in severe cases (probably by continuity,) on that of the Stomach.

The disease called catarrhal fever has visited the different countries of Europe, with more or less violence in regard to mortality, about fifteen times during the last two centuries, and histories of it have been left us by some of the first physicians in experience and ability, who were personally acquainted with the disease. Occasionally we find it described under other names, and occasionally other diseases under the same name. Thus it has sometimes lent its name to bilious or typhus fever, under the appellation of febris catarrhalis maligna, or febris petechizans; none of the symptoms being present which characterize the epidemic catarrh—such as cough, hoarseness, discharge from the nares, or inflammation of the bronchi.

Among other histories, we have the account of the epidemic catarrh, by Sydenham, in 1675; of a similar disease by Huxham, in 1743; and two very elegant descriptions of the same complaint, known under the name of influenza of 1782, from the pens of Sir George Baker and Dr. Falconer. It is very unfortunate that none of these great physicians have left us an account of the appearances on dissection, although the epidemic mentioned by Huxham destroyed a thousand individuals in one week, and was considered mild of its kind.—(Huxham de Morbis Epidemicis, p. 104.)

Notwithstanding this omission, no one author hesitates to place the seat of the disease in the affection of the mucous membranes before mentioned; and the remedies to which it yielded, namely, moderate venesection, warmth, and diaphoretics, with laxatives, would afford sufficient testimony of the nature of the disease.

"The nature of this complaint," said Dr. Falconer, "is undoubtedly inflammatory, attended with a determination to the mucous membrane lining the nose and fauces, which *is, indeed, the proper seat of the complaint,* and to the irritation of which most of the more troublesome symptoms are owing." And again—"The seat of the influenza being the *pituitary* membrane."

But although there is a fair presumption, from the concurrent testimony of all authors, that the affection of this membrane was the direct effect of the miasma of the atmosphere absorbed into the blood, and that the various symptoms which arose were in direct proportion to the injury of the part, yet it is not absolutely conclusive, as we find frequently, in disease, distant parts affected with an apparently greater severity than the seat of the malady.

Morgagni, however, whose experience and testimony is of no slight importance, has left us the appearances after death in a case which died in the epidemic catarrh of Italy, in the year 1730; and here we shall find the mucous membrane of the fauces and bronchi the only injured part.

"Cadavere ad condituram dissecto nec sine pinguedine invento, sanum cerebrum, sana omnia ventris viscera, conspecta sûnt, nisi quod jecur prægrande, subfuscum et duriusculum visum est; sed facile â natûra, cum peculiare vitiati ejus visceris indicium neque antea neque in hoc morbo fuisset ullum. Certe autem thoracis spina ad modum litteræ S, jam inde a puero contorta, alterum illius cavum multo arctius faciebat, multoque minorem continebat pulmonem. In neutrum tamen cavum humoris quidquam erat effusum. Nihil polyposi in corde. Pulmones neque ad costas, neque ad diaphragma, quod sanum erat, neque ulliam ad partem superficiem alligabant suam. Hæc autem erat albida, ut speciem præberet quasi oblitæ 'vernici,' ut vocamus quadam quæ ad lacteum colorem vergeret. Graves erant ipsi pulmones, sed a catarrhali quam continebant materia, multa passim e bronchiis, quacunque incideres crumpente. Certe eorum omnis substantia flaccida non modo non densa, aut compacta, reperta est."—(Epist. xiii. Art. 3.)

It is singular that the state of the air, in at least two of these epidemics (1743, 1782,) should have produced either immediately before or immediately after its decline, the disease of another part of the mucous membrane,—viz. dysentery.

Here, however, we are more fortunate in our history, as several cases are appended to the work of Sir G. Baker, containing not only accurate accounts of dissections, but also plates of the ulceration of the large intestines. Here the disease was confined to the colon and rectum, producing thickening and ulceration of the mucous membrane, sometimes even in its whole extent. This disease raged in London epidemically, from July to November, and appears to have been very fatal.

It might fairly be alleged that the epidemic catarrh was caused singly by the rapid alteration of temperature affecting the membrane which lines the passages most exposed, and that thus we might account for all the phenomena, without seeking for a peculiar poison of the atmosphere, which, introduced into the circulation, attacked this particular texture. But it is singular that this epidemic has been, in more than one instance, most severe in the months of June and July, when the temperature of the air was not even unusually below the ordinary standard of summer heat; and in almost all the accounts handed down to us, we find it affecting the inhabitants of southern climates at the same period that it raged among the nations of colder regions, attacking equally those on board ships and on different coasts with those who, from the precautions of luxury, were less exposed to variations of heat and cold.

Here, then, we have a fair and evident example of fever arising from the inflammation and increased secretion from a mucous membrane, depending upon a condition of the atmosphere nearly allied to marsh miasma, and probably introduced into the circulation by the lungs.

On Fever in which the Miasma or Poison of the Atmosphere acts directly on the Mucous Membrane of the small Intestines after being received into the Circulation.*

This fever, which is best known in this country under the name of bilious, but not uncommonly typhus fever, (I speak in the common acceptation of a term applied without reserve to all fevers of a low type,) is the most ordinary form of autumnal fever; occurring, however, at all seasons of the year, in low or marshy situations, and being most frequent when damp and cold, or rainy seasons, have succeeded to heat and drought. Where this disease has proved fatal, in the great majority of instances no deviation from the healthy state in the brain or its membranes is to be discovered. The morbid appearances are confined to the small intestines, presenting

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* Synon.

Febris mesenterica maligna	Baglivi.
Febris intestinalis	Heister.
Febris gastrica	Burserius.
Gastro-enterite (aigue)	Broussais.

various degrees of increased vascularity and thickening, and different kinds of ulceration.

The first of these kinds of ulceration, which has been most fully and accurately described,* has its seat in the glandulæ aggregatæ of the small intestines. These are enlarged and thickened, and subsequently ulcerate, presenting ulcers from the size of a pin's head to that of a crown piece. These last have hard irregular edges, and are often so deep as to penetrate to the peritoneal coat of the intestine. When the peritoneal coat gives way, the patient expires in a few hours, with symptoms of acute inflammation; an occurrence which has sometimes taken place when the general amelioration of the symptoms in the progress of the fever had given rise to a fair promise of recovery.

The second kind has been termed abrasive ulceration, and appears as if the mucous membrane had been removed in places with a knife; the edges are neither raised nor much indurated, and there is little or no appearance of increased vascularity.

The third may be termed erosive ulceration. It is not situated in the glandular structure; the vessels around it are of a deep livid red colour, much enlarged; and from these, as the disease advances, very considerable discharges of sanious fluid take place. This form of ulcer resembles much in appearance, and in the symptoms and great prostration of strength with which it is accompanied, that of the cynanche maligna, in the aggravated forms of scarlatina.

Before proceeding to the investigation of the symptoms during life in these forms of fever, and before stating the reasons which convince me that the inflammation and ulceration of the small intestines are the primary affection, and the alteration in the functions of the sensorium the secondary, I may be permitted to inquire whether the ancient physicians who framed the various theories of fever were ignorant of these appearances. It will not be difficult to show that physicians who studied morbid anatomy were perfectly aware of the fact, and we can scarcely be astonished if those who wandered wholly from this true path of observation should have been dazzled and misled by the false lights of which they went in pursuit.

In the Sepulchretum of Bonetus we find traces of such appearances described, but in far too vague a manner to permit of their being considered as accurate observations, on which physicians of that period could form any essential part of their practice.

Previous, then, to the works of the great anatomists of the 17th century, Spigelius and Morgagni, we find no descriptions on which we can rely of these appearances. It is not to be supposed, however, that such men could have overlooked so frequent a morbid appearance in the bodies of those who died of fever as ulceration of the small intestines.

The former writer, Spigelius, who has left us a very elaborate treatise on the fever known to the ancients under the name of hemitritæus, or febris semitertiana, has subjoined the account of the dissection of two patients who died of this disease, where the principal morbid appearances were ulcerations of the small intestines. In one instance, pain having been experienced during life on pressing the abdomen, and in the other no avowal of pain could be obtained from the patient.

From the manner in which this is mentioned, it appears that Spigelius esteemed the symptoms of abdominal pain of very considerable importance, and has placed the danger of the disease in inflammation and destruction of the mucous membrane of the small intestines. The cases are too long for insertion, but the account of the appearances in the ilium ought not to be omitted, as it will bear comparison with the very best and most accurate description from the pen of more modern writers:

"In eo tenuia intestina inflammata vidimus, præsertim tunica eorum interiore. Ilii portionem magnam versus colon prorsus sphacelatam. Interior intestinorum tenuium tunica quâ parte extremitates venarum meseraicum terminabantur duris quibusdam excrescentiis carneis, flavo colore et fusco præditis per brevia intervalla dimidii aut paullo amplius spithamæ laboravit, majoribus excrescentiis in ileo, minoribus in jejuno."—*Spigel. de F. S. lib.* 1, *cap*. xvi.

So accurate a knowledge of the seat of disease, or at least of the structure whose lesion proves fatal in this form of fever, would, we should suppose, lead to accurate practice; and we find the following to be that which he inculcates as the result of these circumstances, and from his experience. He directs venesection where the symptoms are severe, and the early use of brisk purgatives; the latter, notwithstanding the objections of the ancient physicians, and in defiance of an aphorism of Hippocrates, no mean proof of his strong conviction of the necessity of such practice, when it is recollected that the scholastic reverence for these authorities was, in the beginning of the 17th century, unbounded.

"Usus quotidianus me docuit, Rhabarbarum, Senam, Agaricum, atque Aloen Socotrinum, initio omnis hujus febris datam plurimum profuisse," &c.—*Ibid. lib*. iii. *chap*. vii.

For this purpose he particularly recommends a purgative powder of that period, known under the name of the powder of the "Comte de Harvich," which consisted of scammony, antimony, nitre, and crystals of tartar. Considerable advantage is likewise attributed to the use of fomentations and poultices to the abdomen. Morgagni has described, with his accustomed accuracy, a remarkable case of the erosive form of ulceration of the bowels in fever. A youth of twenty years of age, who had been subject to diarrhœa, was attacked with tertian fever, from which he recovered. He was then suddenly seized with acute fever, with exacerbations: on the fourteenth day of the disease he died. The following is the account of the abdominal appearances, in the words of this celebrated anatomist:—

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* Speaking of recent publications, I may mention those of MM. Andral and Bretonneau, in France, and of Dr. Hewett, Physician to St. George's Hospital, in London. Still later, the splendid work of Dr. Richard Bright, Physician to Guy's Hospital (perhaps the most complete work on the subjects on which it treats which has appeared since the Morbid Anatomy of Dr. Baillie,) leaves nothing to be desired.

"Venter, etsi nullo modo tumere videbatur, tamen multum continebat sancosi ichoris, qui ex intestinis prodibat, pluribus in locis ad quendam tractum perforatis. Is tractus ilei finem et proximum insuper colon ad duarum palmarum longitudinem comprehendebat. Erant ibi hæc intestina, erosa, exulcerata, et facie interiore etiam gangrænâ affecta, ut faciliùs perforari potuisset intelligens. Prope hunc tractum, nonnullæ mesenterei glandulæ excreverant in tumorem, in quo ichor non absimilis ejus qui in ventris cavum eruperat, ipsa autem tenuiosis substantia mollis et flaccida erat, et ad corruptionem inclinare videbatur. Lien triplo major quam secundum naturam."

The celebrated Baglivi, who is well known as having been one of the first to detect the errors of the humoralists of his period, in his investigations as to the truth or falsehood of medical opinions, appears to have been much struck with the alteration in the abdominal secretions in fever, and he observed that such alterations were particularly remarkable in fevers of a remittent type.

It does not appear that, by the words "febres mesentericæ," Baglivi alludes to the disease now known under the name of tabes mesenterica, but to those fevers attended with dangerous symptoms, which he believed to arise from vitiated secretions in the primæ viæ, and conceived to stagnate in the mesenteric glands.

"Et candidè fateor ex tribus partibus, febrium quæ Romæ regnant, duas saltem originem habere ab infarctu mesenterii, ibique diu congestâ putri cacochyliâ." It is obvious that Baglivi had observed the diseased secretions of the bowels accurately, and attributed to them the violent disorder of the brain and nervous system consequent on such disease; but he appears not to have known that they were often the consequence of inflammation and ulceration of the glandular structure of the bowels.

Had Baglivi consulted the appearances after death, he would have been enabled to conjoin the facts of the vitiated secretions with the diseased structure, instead of observing only the consequence, and inventing causes for its explanation.

On the opinions previously quoted the practice of this celebrated physician was formed, and he inculcates the use of purgatives. "Purgationes frequenter præscribo, et totam dirigo indicationem in educendo per purgationes mesenterico apparatu, posthabitis diaphoreticis et inutilibus ne dicam noxiis testaceis pulveribus."

In all these cases the author particularly objects to the use of bark, until healthy secretions have been obtained.

"Nonnulli in hisce casibus solent more solito Chinam Chinæ præscribere, quo autem cum successu pluribus in locis hujus operis animadverti. Nam hoc remedium impuro corpori dare, sæpe in ægroti perniciem vertitur, potissimum in maximo apparatu humorum in mesenterio. Frequenter succedit exhibitâ chinâ chinæ, febrem non tolli licet pluries repetatur."

I have dilated more particularly on the opinions and practice of Baglivi, because they have been believed to have been the models by which were constructed the doctrines of a celebrated French physician of the present day; and hence to have drawn the attention of the profession more particularly to the alterations, both functional and structural, of the viscera of the abdomen in cases of fever.

We cannot be surprised that these states of ulceration of the bowels, so common in this fever, should not have been noticed by Dr. Cullen, when the great physician, from whom a large portion of his doctrines were derived, has scarcely alluded to them in his voluminous and laborious productions. Fred. Hoffman mentions, indeed, erosion of the stomach and bowels, in bilious fever, as the result of acrid bile; and has described, with his accustomed accuracy, the chronic forms of ulcerated intestines in the prolonged stage of dysentery, and in the diarrhœa of phthisis. But in no instance, which I can discover, has he related the appearances after death in his numerous cases of fever.

The following passages, occasionally repeated in different parts of his work, contain his knowledge and observations. I leave it to the reader to judge if they can be considered as accurate representations or explanations of the state of the membrane of the bowels in some epidemic fevers, which are now understood to be so frequent and so fatal.

"Nonnullæ non adeo acutæ sed longius extrahuntur, ita tamen ut subinde remissoine vel plane intermissione quadam interpolentur et vel quotidiæ vel tertio quovis die cum vomitatibus et refrigeratione iterum exacerbantur merito ob id quotidianæ vel tertianæ quotidiè vocandæ: sed hæ ipsæ nisi congruis cito succurantur remediis, in lentas febres perquàm facilè degenerant et stomachi diuturna vitia, dolores pressorios, ructus, inflationes, ab erosionem ventriculi vel duodeni, á mordaci bilioso sùcco vel superficietenus vel profundius, factum inferunt."—Vol. 3, sect. 12, cap. 11.

Contrast this with the following exact description of the ulceration in its chronic form, as it occurs to our observation in dysentery and phthisis.

"Quod si in intestino quodam ejusmodi erosio fuerit identidem dolores in abdomine et dorso cruciant qui semper assumptis calidis, salsis, acidis mirum exacerbantur, dejectiones alvi sunt creberrimæ, et varia caloris et frigoris est in corpore vicissitudo, urina mox tenuis et aquosa, mox rubicunda et crassior redditur, malum etiam admodum diuturnum est, vires depascit, corpus consumit, longum certè tempus et accuratam emdulcentem diætam plusquam medicamenta præsertim activiora desiderat."

It is now several years since Dr. Baillie published his valuable work on Morbid Anatomy; a work which is doubly interesting from the period in which it was written, and the rare observation, accuracy, and simplicity, which it displays.

Dr. Baillie has very completely described the ulcerations of the intestines, which are so frequently met with; he has distinguished them with the most perfect truth in the following words:—

"The edges of the ulcer have sometimes considerable thickness, and sometimes they are not thicker than the healthy structure of the intestine. The edges and general cavity of the ulcer are sometimes ragged; and at other times they are smooth, as if a portion had been cut off from the intestines with a knife. Sometimes there is a considerable length of intestine, especially if it be the great one. (This is the appearance which prevails in severe dysentery.) The inner membrane hangs in shreds, occasioned by the great ravage of the ulceration. I have also seen a considerable portion of intestine completely stripped of its mucous membrane from the extent of this process, and its muscular coat appeared as distinct as if the mucous membrane had been very carefully dissected off. In the follicular glands, which are gathered together in little oval groups, I think ulceration occurs more frequently than in the other textures of the intestines."

It is impossible to conceive any thing more just than the preceding description; still Dr. Baillie has not connected these appearances with any particular form of disease, neither has he stated that they are very common in some forms of fever. From an expression in a posthumous publication of Dr. Baillie's, it would appear that he had not paid as much attention to what has been called idiopathic fever as to other diseases.

In the year 1804 Dr. Beddoes published a treatise on fever, principally with a view of ascertaining, from the history of the dissections of persons dying in various epidemics, the truth of Dr. Clutterbuck's and Mons. Ploucquet's views in associating idiopathic fever invariably with inflammation or lesion of the brain, or its membranes.

It is very difficult, from this little work, to collect that Dr. Beddoes was aware how often and how fatally the small intestines were attacked in some fevers; the result, however, of his comparisons and inquiries is, that "in idiopathic fever the stomach and contiguous parts have been found more constantly and more deeply affected with inflammation than the brain and its membranes."

Dr. Nevenson, more than twenty years ago, in his Julstonian Lectures on fever, before the College of Physicians, noticed particularly ulceration in the bowels as a most frequent and fatal occurrence. During twenty-six years that Dr. N. was a physician to St. George's Hospital, he was in the habit of calling the attention of the pupils to this fact.

From the foregoing remarks it will be easy to deduce the title to originality to which M. Broussais has a claim in the pathology of fever.

This gentleman, who has a just right to the name of an enlightened and enterprising physician, appears to have been led to doubt, from experience in the epidemic fevers which attacked the French army during various campaigns in the late war, of the propriety of the ordinary doctrines of fever. The opportunities afforded him of inspecting the bodies of those who fell victims to the disease, pointed out the frequent extensive and severe injuries in the mucous membranes of the intestines and bronchi, particularly the former; and led him subsequently to believe that fever was symptomatic of such changes, and not the cause of them.

We have already noticed the great similarity which exists between the opinions of Baglivi and those of Mons. Broussais, and it is not by any means improbable that the perusal of the works of the former either gave rise to, or at least strengthened, the tenets of the latter.

We have already shown, that although several illustrious and scientific men had not omitted to observe these organic lesions, yet they were but very few in comparison with those otherwise ingenious and learned physicians who have entirely passed them over; and although, strictly speaking, Mons. Broussais can by no means be considered to have made a discovery, yet he has most widely diffused what was otherwise most partially known. From one end of the continent of Europe to the other has the attention of physicians been called to the morbid appearances in fever, by the exertions, the ardour, and the example of the French physician. To him are undoubtedly owing the completion of the downfall of the doctrines of debility which, powerful in France, had become triumphant in the practice of Italy until the works of Rascori and Tomassini appeared.

Here, however, we must stop: the very spirit which supported M. Broussais in the diffusion of his observations carried him too far, and induced him to hope to establish an entire system of disease on the degrees of lesion of a single structure. Here, then, whilst we admire the talents of the man, and the labours of the physician, we are obliged to regret the intemperance of the enthusiast.

M. Broussais has published no direct work on the subject of injuries of the mucous membranes. Some papers, in a periodical work, and the observations scattered in his "Revue des Systèmes Medicales," contain his views. Personally, however, he has taught these observations, and demonstrated the lesions of the intestines in fever for several years; and the pupils who have issued from his school have dispersed his opinions, and imitated his example, in almost every city in Europe.

At the time that Mons. Broussais was occupied on this subject in France, Dr. Armstrong called the attention of his pupils in this country to the subject, and enforced the great importance of these organic lesions.

Since this period, as I have lately noticed, many works have been published, and several lecturers have entered very fully on this subject. During the last four years, Dr. Chambers, physician to St. George's hospital, has been in the habit of pointing out these diseases, and illustrating his excellent and practical lectures with preparations taken from those cases which had prove fatal.

It has been alleged, and at first sight the opinion does not appear improbable, that these ulcerations discovered in the bodies of persons who have died of fever might arise from acrid substances administered throughout the disease, with a view of relieving the febrile symptoms, particularly from large doses of mercury, and frequently repeated purgatives. The habitual use of such remedies in this country renders it difficult to set this question absolutely at rest. The difficulty is removed, however, if we have recourse to the practice of physicians in other countries. In France, the treatment of this class of fevers consists in avoiding purgatives, administering only the milder laxatives, the application of leeches to the abdomen, the use of the mildest demulcents, as decoct. altheæ gum, and the infusians of various herbs perfectly divested of every active property. Here, then, we should expect to find the ulcerations of the glandular structure of the bowels at least much less frequent and severe; but the contrary is the fact, as the most terrible examples of this disease are constantly exhibited by Mons. Broussais to his pupils, where the emollient practice has been the only one enforced.

I shall proceed by stating the symptoms and considering the method of cure in this form of fever, having concluded my sketch of the opinions of former physicians, by which it will be perceived that those who combined observation of symptoms with the appearances after death, were well aware of the existence of this formidable effect of atmospheric miasma, whilst those (and unfortunately they were many) who were satisfied by grouping together symptoms, and explaining them by visionary laws, were ignorant of the destruction of parts which all must allow will go far to explain the severity of fever.

[*To be continued.*]

From the London Medical and Physical Journal.

UPON A DISEASE OF THE STOMACH, *which produces well-defined Perforation in its Tunics, without Softening of their surrounding Structure.* By Dr. C. H. Ebermaier.

(Concluded from page 57.)

Case VII. (related by M. Trinnius.)—A man, apparently in good health, was suddenly attacked, after exposure to cold and rain, with a violent pain in the region of the stomach. His suffering gradually diminished, but he remained subject to frequent attacks of spasm in the stomach. His complaints, however, continued so trifling for the space of a year, that he did not, until the expiration of that time, seek for medical assistance. At this period he was robust in appearance, and, with the exception of slight spasmodic affections of the stomach, which did not, however, cause any local tenderness or increase of sensibility, he enjoyed good health. The digestive functions were undisturbed. He was quickly relieved by the use of the oxyde of bismuth. In the course of a few months, the cardialgic affection returned with increased severity. Any irregularity in diet obviously added to the sufferings of the patient. Antispasmodics produced no good effect. He had occasional intervals of ease, during which the stomach was not disturbed by food, and he was able to take moderate exercise.

About a fortnight after his relapse, he rode out one morning in a carriage, and ate heartily of salt meat. On returning home, he was seized with the most violent pains, with great agitation, and difficulty of breathing. The surface of the belly appeared to be drawn towards the spine; the face and extremities were pale and cold. Great pain in the abdomen; tenesmus. For the first time he vomited a quantity of tenacious mucus. He complained of a sense of fulness in the lower part of the belly: it was not, however, tense or hard. The pulsations at the wrist were too rapid to be numbered. The faculties were undisturbed. The slightest motion gave rise to the sensation of some heavy body rolling about in the abdomen. In a few hours he died.

Dissection.—A considerable quantity of chocolate-coloured fluid escaped from the abdomen. The stomach was pale and shrunk, and near the pylorus there was found an aperture of a circular form, about an inch in diameter. A more accurate examination detected several points of preternatural adhesion with the surrounding parts. In other respects, the stomach and the other viscera were perfectly healthy.

Case VIII.—A man, twenty years old, who had been subject to dyspeptic attacks after eating, was attacked suddenly with very violent spasmodic pain in the stomach. He threw himself upon a sofa, his body bent with suffering, and uttering dreadful cries upon the least motion. The pulse was not to be felt. At the end of a few hours he died, in perfect possession of his faculties.

Dissection.—A good deal of air escaped from the abdomen. In the cavity was found a mixture of solid and liquid food, that had escaped from the stomach. The stomach was shrunk, and upon its anterior surface, near the lesser curvature, about two inches from the pylorus, was found an opening with smooth edges, which appeared as if it had been made with a punch. It was rather oval than round, nine lines in length, and six in diameter. Nearly opposite this aperture, on the posterior part of the stomach, there was a small round spot of mortification, which appeared on the point of giving way. There was no appearance of recent inflammation, or determination of blood. All the other viscera were healthy.

Case IX.—This case was communicated to Dr. E. by M. Thevissen. It is particluarly interesting, inasmuch as it proves that a similar kind of disorganization may take place in other organs, the structure of which admits of the formation of perforations, with fatal extravasation of their contents.—An unmarried woman, thirty-three years of age, whose health had never been disturbed by any serious illness, suddenly complained of very severe pain in the lower part of the belly. No cause could be assigned for the attack. She imagined it was possible that her attack might be dependent upon suppression of the menses, which had existed for four months. The lower belly was highly sensible to the slightest pressure. Thirst excessive. Extremities covered with sweat, and cold as marble. Countenance anxious, and with a yellowish tinge. Pulse small and quick. Abdominal inflammation was suspected, and a severe antiphlogistic treatment was instituted without any benefit. The pains increased in severity. Frequent vomitings of a dark brown substance. The patient gradually sunk, and died the night after she was attacked. She had had no motion, nor passed any urine, during her short but severe illness.

Dissection.—A considerable quantity of fluid escaped from the abdomen, of an urinous smell. There was no trace of gangrene nor of inflammation. All the viscera were healthy. The uterus contained a four-months' fœtus. On the posterior side of the bladder, about the middle of its longitudinal diameter, a circular perforation was found, about two lines in diameter. The edges of this opening were neither gangrenous, inflamed, nor hard; they were as smooth as if a portion had been removed by a punch. In every other part the bladder was perfectly healthy.

After having cited these very interesting examples, Dr. E. takes a brief view of the opinions which other physicians have entertained upon the subject, and concludes by stating his own sentiments.

Gerard conceives that the perforations of the stomach cannot be attributed, in general, to any acrid matter. If such were the fact, the organ would be corroded to a greater extent. These apertures are usually found in patients apparently in good health, or who at least are not suffering under any malady alarming in itself. He imagines that death takes place in consequence of rupture of the stomach from gangrene, ulceration, or abscess; and he suggests that a small abscess may be slowly developed in the tunics of the stomach, which may entirely destroy the coats. A case related by Lieutaud renders this probable. He found pus between the membranes of the stomach, in the body of a woman who had long suffered from cardialgia.

Chaussier derives all the perforations from scirrhous affections, or of from suppuration. He rejects the spontaneous digestion of the stomach admitted by Hunter, and also the action of worms. He supposes that the apertures arise from a morbid process of ulceration, which may be either acute or chronic. Although there is, in the first instance, no chemical alteration in the humours, still the cause depends upon a particular irritation of the solids, in consequence of which the humours acquire a dissolvent property, as is proved by the lint placed upon ulcers being frequently perforated or dissolved. It is impossible to characterize this morbid process by its external signs or by its essence, because it takes place in the tissue of the organs, in the extremities of the lymphatic, vascular, and nervous systems. It is, in fact, known only by its results. It is the opposite of the process of nutrition, which is as completely hidden from our observation. When it attacks a part, its blood-vessels are gradually multiplied, and appear injected. An ichorous fluid is discharged, which attacks the tissue, and destroys every part it touches. The spots and perforations of the stomach are different degrees of one and the same malady. Sometimes the destructive process is suddenly established, in the space of a few hours, and in healthy subjects. It more frequently occurs after some days' illness.

Henke is of opinion that these spontaneous perforations of the stomach are identical with the disease known in Germany by the name of gelatiform softening of that viscus, and which is observed principally in children, and that it is preceded by inflammation of the stomach, of a more or less acute nature.

Desgranges maintains that, in the case he saw, the violent contractions of the stomach, always acting upon a single point, produced a mechanical lesion of the part.

According to Rauch, perforations of the stomach occur in four different forms: 1. Ulcers with their edges, which are callous, or inflamed or sphacelated, and that then the tunics of the viscus are gradually destroyed. 2. Destruction of a perfectly healthy tissue, with irregular and fringed edges, more or less inflamed: such perforations arising from the action of gas, efforts at vomiting, &c. 3. Round holes with smooth edges, without suppuration, gangrene, inflammation, softening, or thickening. Also a gradual thinning, with local absorption of the coats. 4. Gelatiniform softening.

Various other opinions are glanced at, but they do not refer to those round perforations of the stomach, the edges of which are smooth and not thinned.

Dr. E. is of opinion that the cases he has related prove the existence of some common morbific cause, which could produce so striking an uniformity in the appearances seen on dissection. He observes—1. That in every case the disease was extremely slow, being gradually developed in the course of several years. 2. In no instance was the nature of the malady suspected by the physicians. The symptoms were so obscure in some instances, that an affection of the stomach was never thought of. The derangements of the digestive functions were considered to be sympathetic. The fatal termination of the disease was never anticipated. Death sometimes occurred unexpectedly, almost in the midst of apparent health. 3. The disease continued uninterruptedly, without any perfect intervals, as is frequently the case in true nervous cardialgia, although occasionally in so slight a degree that the patient considered himself in health. Severe pain did not usually occur until the last days of the patient's existence, and not always even at that time. The previous pains were slight, limited to a dull sensation of pressure in the precordial region, and to slight spasms. 4. Cachexy never followed this long train of symptoms. Although vomiting frequently occurred, the strength of the patient did not appear diminished, nor did his external appearance indicate the existence of disease. Emaciation occurred only in the case related by Rauch, and that was an example of a complicated malady. In every other no hectic fever was observed, and death was neither the result of exhaustion of the vital powers nor want of nutrition: it was sudden, and caused by the extravasation of the contents of the stomach, without which the patient might have continued to live. 5. The perforations were always found in the pyloric region, or near it. 6. The most attentive examination could not in any case detect the least vestige of inflammation or suppuration of the other parts of the stomach. The tunics of that organ were perfectly healthy, except in the spot perforated, and rather pale than red. 7. The appearance of the perforation was always the same. Approaching a perfectly round form, and almost always of considerable extent, it penetrated uniformly all the coats of the stomach, so that the portion removed appeared to have been taken away in a very regular manner. The surrounding parts were never softened, nor the edges thinned. There was generally perceived around the opening a tumefied induration, but not tuberculous nor cartilaginous. It was regular, and lost insensibly in the healthy parts.

Dr. E. considers the cases he has related particularly interesting, and calculated to throw some light upon the true nature of these perforations, on account of the adventitious and thickened tissue which surrounded the apertures. It follows that the rupture could not have arisen from the thinness or local weakness of the part, but that it depended upon a regular and uniform process, continuing without interruption from the commencement of the disease.

It may then be concluded, that these regular perforations of the stomach are never the accidental or mechanical result of spasm. That the disease does not consist in scirrhus or cancer of the stomach. That it is not the termination of an ordinary chronic inflammation. Lastly, that it does not result from "ramollissement" of the parietes of the stomach.

From the London Medical Gazette.

REMARKS ON M. DUPUYTREN'S TREATMENT OF HÆMORRHOIDS.

By J. Bacot, Surgeon.

In a late number of the French periodical called "La Clinique," there is a paper purporting to be the result of M. Dupuytren's experience as to the best method of removing hæmorrhoidal tumours, external as well as internal, but more particularly the latter. It may appear, perhaps, presumptuous in me to attempt to controvert the discoveries and opinions of a man so eminent as Baron Dupuytren, but as I have had no inconsiderable share of experience in the treatment of the disease in question, and as I sincerely believe the mode of cure recommended by him to be in many cases fraught with great danger, I shall make no apology for offering the following observations to the consideration of the profession; indeed the very celebrity of the Baron's name renders it more necessary to put this matter in a proper point of view, since it may very fairly be supposed that, under the sanction of his authority, the plan he advocates may be indiscriminately adopted by those who have not had opportunities of witnessing the danger and risk to which it gives rise. Perhaps of all those minor diseases which render life burdensome, without actually compelling the patient to forego entirely his usual avocations and amusements, none are more common than the existence of hæmorrhoidal tumours. These have been divided by authors into external and internal, and the distinction is not one of theory or convenience only, but is of the greatest practical importance. External piles, as their name implies, are situated on the outside of the sphincter ani, sometimes almost surrounding the anus, at others amounting only to one, two, or three in number. When not in a state of irritation they are flaccid and soft to the touch, *are covered by the common integuments*, and of a brownish ash colour; they are occasionally apt to bleed; sometimes they become tumid and tense, producing great pain in walking or sitting; their appearance then is much darker, and they both look and feel as if distended with blood. The bleeding from these external piles is sometimes constant, occasionally almost periodical, sometimes trifling, and at others amounting to a very considerable quantity; the blood appears to be poured or squeezed out, as it were, from the whole surface of the tumour, but now and then it is afforded by a single vessel. Such are the principal circumstances connected with the appearance and symptoms of external piles. It is not necessary now to dwell upon the opinions formerly entertained as to the salutary nature of the bleeding from these tumours, and the dangers likely to ensue from their suppression; neither shall I dilate upon their causes. Habitual costiveness, if, as some pretend, it has nothing to do with producing them, always contributes to their aggravation; and the effect of repeated strainings to evacuate the contents of the rectum sufficiently explains this fact. With regard to internal hæmorrhoids, or those situated within the sphincter, it may be said generally, that when existing in any number, or of any size, they are infinitely more troublesome and annoying than the external ones. They are a perpetual source of uneasiness and trouble, and when suffering under temporary irritation, they are infinitely more painful. These tumours are covered by the *mucous membrane of the gut*, and have therefore a smooth, shining, red appearance, which at once distinguishes them, when protruded from the anus. They are always so protruded when the bowels act, and will frequently, when numerous or large, require to be replaced within the sphincter by the finger; there, however, they will only remain for a short space of time: they descend with any violent exertion of walking, by the expulsion of flatus, or in aggravated cases often merely from the body being kept too long in the erect position; so that people thus unfortunately circumstanced are perpetually compelled to stop, in walking, to replace the tumours within the anus, or to sit down to get rid of the extremely distressing sensation (it can scarcely be called pain) which they produce. The existence of these tumours has often a great effect upon the general health; they not only bleed occasionally, as well as the external piles, but they pour out (especially when under the influence of occasional irritation) an abundant muco-purulent discharge, and induce pain in the loins, thighs, and calves of the legs, as well as general debility. Though these tumours are now and then complained of by young men, it seldom happens that they produce serious inconvenience before the middle period of life; and though women are subject to the disease, the majority of the worst cases of this sort will, I believe, be found to occur in the male sex.

Of the mode in which hæmorrhoidal tumours are formed, many explanations have been given: I shall not stop to examine these. That they are merely the enlarged terminations of the hæmorrhoidal veins I do not believe, but that they are often highly vascular there can be no doubt: I have seen an artery of the size of a crow-quill pouring out blood from one of these tumours, and projecting it to the extent of several feet.

The above description, though perhaps not complete, will, I conceive, be sufficient to enable any person, how little soever conversant with the subject, to recognise the disease; and it now only remains with me to protest against M. Dupuytren's plan of removing these tumours by excision, and to explain to what cases that mode of operating is applicable, and where it would in all probability be followed by fatal results.

In the paper to which I have alluded, it is observed that the plan of treatment advocated by the Baron (namely, excision) is not always free from danger. In a foot note, two fatal cases are alluded to as having taken place within the knowledge of the writer, and in the first case mentioned (one related by M. Dupuytren) death from hemorrhage had nearly occurred, and was only prevented by the employment of the actual cautery; in short, had the surgeon quitted the house, the patient must have died; and yet this result can only be averted, upon such occasions, according to the Baron's statement, by thrusting a newly and neatly contrived red-hot instrument up the anus. Now the rule that I would lay down is simply this: if you wish to get rid of *internal* hemorrhoids permanently and with safety to the patient, do not remove them by excision, for it is *never safe* to do so; and if you have to cure a patient of *external* piles, or those covered by common integument, *excise* them upon all occasions; the hemorrhage will be trifling and perfectly under your command; whereas the application of the ligature, which is certainly and assuredly safe in the treatment of the *internal* hæmorrhoidal tumour is fraught with mischief in the *external* pile, and should never upon any account be attempted.

It is not my intention to extend this paper by detailing the various methods that have been proposed for relieving the troublesome symptoms of this disease: my principal object was to enter my protest against the *excision of internal* hæmorrhoidal tumours, as recommended by M. Dupuytren. When the knife is used, in such cases, hemorrhage, to a greater or less extent, is always to be apprehended. Sometimes the tumours are very vascular, containing vessels of considerable dimensions, the divisions of which, in a situation out of our reach, would be necessarily fatal, and has unfortunately proved so on several occasions in this country as well as in France, and the probability of the occurrence of severe hemorrhage can never be appreciated *à priori*. It is true that the actual cautery, if skilfully employed, may, under those circumstances, arrest the bleeding; but it may not always be easy to touch the exact spot from which the hemorrhage proceeds—and there is certainly something revolting and frightful in the nature of the application, independently of the time that must necessarily elapse before the parts are restored to a healthy state. Now I contend that, by employing the ligature in these cases, all danger is avoided, the operation is not only safe but permanently efficacious, and, excepting the confinement of a few days, implies no risk whatever; I speak this with confidence, having performed or witnessed the performance of this operation at least fifty times, with an uniformly successful result: it only remains, therefore, to detail the method of performing it. The patient should take an aperient of castor-oil, so as to completely empty the bowels, either the evening before or on the morning of the operation. He is to be placed, during its performance, in the same position as in the operation for fistula in ano; and having previously protruded the tumours by straining as if going to stool; the buttocks are then to be kept separated by an assistant, whilst the operator examines the size and number of the tumours, and observes their situation, as well as connexion with the gut, whether the base be narrow or broad, &c.

If the base be narrow a single ligature may be passed round it, and tied with considerable force; but if it be broad it will be necessary to pass a common curved needle, armed with a double ligature, through the centre of the hæmorrhoid, and tie it on each side. The ligature must not be too small, and should be drawn sufficiently tight at once. This part of the operation often produces considerable pain. When all, or at least the principal tumours have been secured in the manner directed, they are to be returned into the gut, one end of the ligature being previously cut off about an inch from the knot, and the patient put to bed. The great object is to preserve the parts at rest for three or four days, and to prevent, therefore, the chance of an evacuation by stool. For this purpose, as well as to allay the pain, which is sometimes very great, opium should be freely given; either in the solid form, or, if that disagrees, Battley's sedative solution will usually answer the purpose extremely well. For the first day or two the patient should be restricted from taking any solid food; and, indeed, whatever he has should be in small quantities. The ligatures generally fall off in a period of from four to eight days, and except some uneasiness in passing the stools for the first week or fortnight no other inconvenience will be found to remain. If the bowels should show no disposition to act upon the third or fourth day it may be proper to prescribe a purgative, either of castor-oil or jalap. The only untoward circumstances that I have ever met with in the progress of these cases are in the male—an inability to empty the bladder, lasting for a day or two, and requiring the employment of the catheter; and in either sex a disposition to nausea, or even vomiting, which is equally transient.

I have not thought it necessary to speak of local applications after this operation, because in general, they are of little service; the parts being returned and retained within the rectum. But when the patient complains of a troublesome burning sensation, which occasionally accompanies the destruction of the tumours, cloths dipped in the saturnine solution, or a common poultice, will afford relief.

The pain that very often attends the operation, and which endures sometimes for many hours, is likely to alarm the young practitioner. I have observed this always to be most severe when the ligature has not at first been drawn sufficiently tight. This pain is often associated, in the surgeon's mind, with the idea of active inflammation; and an erroneous practice founded upon it, such as large bleedings and other depletory measures. But this pain is not the result of active inflammation; it is unattended with pyrexial symptoms of any consequence; it appears to be the result solely of simple irritation. It is removed, or at least mitigated, by the free use of opium; and ceases altogether as soon as the death of the parts included within the ligature has been accomplished.

It is pleasing to observe the rapid improvement of the general health, and the altered appearance of the before anxious countenance, produced by the removal of the hæmorrhoidal tumour. There is, perhaps, no case in which the benefit derived from a surgical operation is more striking or more permanent.

A late number of the Gazette contains the following note from Mr. Bacot.

It has been suggested to me that, in commenting upon M. Dupuytren's mode of treating internal hæmorrhoids, I have expressed myself in a manner calculated to induce a belief that the plan of operating which I have described was the result of my own observation and experience. As such an impression is equally foreign from my intention as it is from the truth, I hasten to offer a few words as an addendum to my paper of last week. It cannot be too generally known that the profession is indebted solely to Mr. Copeland for the clear and scientific view which he gave some years ago of this class of complaints; to him alone must be ascribed the merit of having shown to what cases the operation by ligature is applicable, and where excision may be practised with safety; and the value of his work consists in the sound and unerring principle upon which it is founded—that of the anatomical structure of the parts concerned. It has often surprised me that, notwithstanding the length of time which has elapsed since the publication of Mr. Copeland's pamphlet, and the eminent success attending his practice, the profession, both in England and on the Continent, appear to be still so little instructed on this subject. In all modern works upon diseases of the rectum, including Messrs. White's, Kirby's and Calvert's, the treatment of the internal hæmorrhoidal tumour is discussed in a manner that evidently shows these gentlemen to have been unacquainted with the true principles of practice in these cases; and I cannot but repeat my conviction that, if the mode of operating first brought into notice by Mr. Copeland, and which I have followed for some years with the same invariable success, was generally understood and appreciated as it ought to be, we should hear nothing more of the excision of internal hæmorrhoids.

From the Edinburgh Medical and Surgical Journal.

CASE OF OSTEO-SARCOMA OF THE LOWER JAW, Removed by James Syme, Esq. F. R. C. Surgeons, Lecturer on Anatomy and Surgery, &c.

Though excision of the lower jaw has of late years been frequently performed by various surgeons at home and abroad, I flatter myself that the following case will be read with interest, since the tumour which was the subject of it is, I have reason to believe, the largest that has been removed by this operation.

In the beginning of July I was requested by Dr. Sibbald to examine a tumour which he was anxious to have removed, provided it could be done with safety to the patient. He told me that, while making a professional visit at Coldstream, he had seen the unfortunate person in question, and learned the following particulars of his case.

Between eight and nine years ago, Robert Penman, then 16 years old, noticed a hard swelling of the gum on the outer side of the grinding teeth of the lower jaw. The swelling was not painful but gradually increased. When it attained the size of an egg, he applied to a surgeon of the neighbourhood, who extracted three of the adjoining grinders. It then grew more rapidly, and having at length become so large as a double fist, induced him to repair to the Royal Infirmary of this city, where it was removed, *i. e.* cut off from the bone. The wound did not heal, and the actual cautery was repeatedly applied in vain to make it do so. After remaining eight months in the Infirmary he returned home; but finding the tumour regularly and rapidly increasing, he, two years afterwards, came again to Edinburgh, and consulted a distinguished operating surgeon, who declined making any attempt towards his relief. He went home with the fearful prospect of a certain, lingering and painful dissolution; and it was after *three years and a-half* spent in this miserable state that Dr. Sibbald happened to see him. Though the tumour was then nearly three times larger than it was when the patient last quitted Edinburgh, Dr. Sibbald felt persuaded that it was still within the reach of surgery, and therefore encouraged the young man to come once more to town, which he accordingly did.

Though prepared for something very extraordinary and frightful, I certainly was astonished at first sight of the patient.

The mouth was placed diagonally across the face, and had suffered such monstrous distortion as to measure fifteen inches in circumference. The throat of the patient was almost obliterated, there being only about two inches of it above the sternum, so that the cricoid cartilage of the larynx was on a level with that bone. When the tumour was viewed in profile it extended eight inches from the front of the neck. It completely filled the mouth, and occupied all the space below it, from jaw to jaw. The tongue was thrust out of its place, and lay between the teeth and cheek of the right side. The only portion of the jaw not implicated in the disease was the right ramus and base of the same side, from the bicuspid teeth backwards. The tumour, where covered by the integuments, was uniformly very firm, and for the most part distinctly osseous. The part which appeared through the mouth was a florid, irregular, fungous-looking mass of variable consistence, from which an alarming hemorrhage had occasionally occurred; and for the last three or four weeks there had been almost daily a discharge of blood to the extent of one or two ounces. Notwithstanding the great bulk of the tumour, the patient could move his jaw pretty freely in all directions. With the exception of the disease now described, Penman enjoyed good health. He was a tall, well made, though much emaciated, intelligent young man, and possessed uncommon fortitude.

Having carefully examined the tumour, I undertook to remove it; and this proposal meeting with the approbation of Dr. Abercrombie and Professor Ballingall, was, with the assistance of the latter gentleman, carried into execution on the 7th of July, in the presence of Dr. Abercrombie, Professor Russell, Dr. Hunter, &c.

The patient being seated on an ordinary chair, which posture, though inconvenient to myself, I preferred as being most conducive to the prevention of suffocation from hemorrhage during the operation, I made an oblique incision by running a sharp-pointed knife through the lip, from the right angle of the mouth to the base of the jaw, where I proposed to divide it, viz. at the second bicuspid tooth, which had been removed the evening before. Having exposed the external surface of the bone at this part, I divided it partially with the saw, and easily completed what remained by means of the cutting pliers. The inferior coronary artery, which Dr. Ballingall had prevented from bleeding by compressing it in the lip, was then tied.

I next made a long semicircular incision from the left angle of the mouth, in the direction of the base and ramus of the jaw, and terminating over the condyle. Having secured the facial artery, and two transverse branches of the temporal, I dissected down the large flap thus formed quite to the neck, so as to let Dr. Ballingall feel the carotid lying in the muscular interspace, and ready to be compressed if there should be occasion. I then made another curved incision in a similar direction, commencing from the mouth, at such distance above the former as to include a portion of the cheek, which was firmly adherent to the tumour; and having dissected up this flap, divided the masseter muscle, so as to expose the whole external surface of the tumour. The next step was to divide the mucous membrane of the mouth. This rendered the tumour much more moveable, and enabled me to expose the coronoid process, divide the temporal muscle, and open the articulation at its fore part. I had then merely to cut closely round the condyle, and detach the pterygoid, mylohyoid, and other muscular connexions.

The operation occupied twenty-four minutes; but all this time was not employed in cutting, as I frequently allowed a little respite, to prevent exhaustion from continual suffering. The patient bore it well, and did not lose more than seven or eight ounces of blood. His breathing was never in the slightest degree affected.

After placing a few folds of caddis in the great cavity left by the tumour, which weighed 4½lbs., I brought the integuments together on the left side of the face, in a triangular form, and retained the edges in contact by the twisted suture. The incision on the right side was dressed in the same way. Two or three turns of a roller were then put round the chin and head, so as to support the relaxed integuments.

The patient made no complaint of any sort after the operation. His pulse for the first two days was about 100, but soft, and gradually subsided to the natural standard. He slept well; had an appetite for his food, viz. beaf-tea and whey, which were introduced into the pharynx through a funnel with curved tube, and performed his excretions regularly. The whole of the caddis was removed by the third day, when the patient sat up, and declared that he felt better than he did previous to the operation.

In concluding this case, I take the liberty of making a few general remarks on the mode of operating.

The patient ought certainly to be seated, since the blood will thus be prevented from running into his throat so as to delay the operation, or even render tracheotomy necessary to prevent suffocation.

There is no advantage in tying the carotid artery previous to commencing the extirpation. I was advised to do so in the case above related, but declined on the following grounds: —1. It is unnecessary, since the only arteries which must and ought to be cut are the facial, some of its branches, and some branches of the temporal. 2. It must exhaust the patient, especially when the tumour throws an obstacle in the way, as in Penman's case, where there was hardly any space left for applying a ligature. Thus, in one of Dr. Mott's cases, the patient was so much fatigued, as to require the delay of a day after the artery was tied. 3. It increases the danger, since it cannot be denied that there is always more or less risk of hemorrhage on the separation of a ligature from so large a vessel as the carotid. 4. It is of no use, since the anastomotic communications are so free, that a ligature of the trunk is not sufficient to arrest the flow of blood from its branches. Thus, in Dr. Mott's case above-mentioned, the arteries which were cut during the operation required to be tied; and I have heard of a case where the operator, attempting to remove a tumour of the upper jaw, tied *both* carotids, and was still obliged to desist by the bleeding. 5. Any good effect that can be expected from *tying* the trunk may be obtained by *compressing* it after the integuments lying over it have been dissected off or divided.

For sawing through the lower jaw, I am quite sure that the chain saw, though recommended by a surgeon so experienced and judicious as my friend Dr. Cusack, is not the best instrument. The one I used has a straight blade six inches and a-half long and half an inch broad, with a straight handle. It will be found very useful in many different operations on the bones. It is not necessary to saw through the whole thickness of the bone. A pretty deep groove being made, the cutting pliers, introduced into use with so much advantage to operative surgery by Mr. Liston, easily complete what remains. In this way I divided the jaw in less time than would have been required for passing the chain saw round it.

The external surface of the tumour should be completely exposed before proceeding farther, since all the vessels which ought to be tied may then be tied in the first instance, and a free drain is afforded to the blood which oozes from the small branches. The mucous membrane of the mouth being next cut by a scalpel, carried from the tonsil outwards, the tumour is rendered much more moveable, and the surgeon will generally be able to free the coronoid process from its muscular connexions. Should he fail in doing so, he ought to cut it across with the saw or pliers, and then depressing the tumour as far as possible, open the articulation on its fore part; after which he has merely to carry his knife close to the tumour, and divide the remaining attachments.

I think Dr. Cusack is entitled to much praise for insisting on the propriety of opening the articulation from before, since a wound of the internal maxillary, or even the temporal, is otherwise almost inevitable. Thus Mr. Liston, in the case detailed in the last number of this Journal, opened the joint from behind, and found it necessary to tie the common trunk of the temporal and internally maxillary, —in short, the external carotid. I do not mean to say that this proceeding was very dangerous to the patient, or very difficult to so expert an operator as Mr. Liston. But I think that the great object of a surgeon should be to avoid cutting any thing which it is not necessary to cut. And I think that the patient in this case would hardly have suffered the severe secondary hemorrhage which is mentioned in the relation referred to, if the superficial vessels merely had been divided.

It appears also that in Mr. Liston's case the ascending branches of the portio dura were cut, since the patient's eyelids were paralysed. Now this in all probability would not have happened, if the articulation had been opened from before.

P. S.—Penman is now quite well. His mouth is contracted to nearly the natural size, and his appearance is not disagreeable. He is daily improving in articulation, and can already express his wants pretty intelligibly. He has become much stronger, and is thinking of resuming his occupation.

From the Lancet.

STONE IN THE BLADDER SUCCESSFULLY TREATED BY LITHOTRITY.

The extraordinary success which M. Civiale has experienced by his method of treating stone in the bladder, entitles it to more attention than has hitherto been bestowed on it by the practitioner of this country. We presume that our readers are acquainted with this method, and have no doubt that the following case will contribute to excite their interest in its favour.

——— Morin, 68 years of age, of a very irritable temperament, began, in 1825, to be affected with considerable strangury and dysuria. The application of leeches and poultices to the perineum, warm baths, and a spare diet, relieved these symptoms, but did not prevent their frequent recurrence during 1826. At this time hectic fever began to appear, and the urine deposited purulent matter, the quantity of which gradually increased. As the patient obstinately refused to be sounded, it is uncertain whether, at this period, a stone had been formed. The symptoms becoming, however, more urgent, the patient was at last sounded, and a stone was found in the bladder, which was so irritable that the introduction of the sound was followed by acute cystitis, which could only be reduced to a sub-inflammatory state by a very active antiphlogistic treatment. Under these circumstances, M. Civiale's method was proposed, and although the hectic state of the patient, colliquative sweats, the greatest debility, with nausea, &c., gave a very unfavourable prognosis, this gentleman readily consented to perform the operation of lithotrity.

The patient was prepared for it by light tonics, with small doses of opium and emollient clysters; at the same time a nourishing diet, semicupia, and poultices on the abdomen, were employed. The strength of the patient was by these means somewhat improved, and the fever, in some degree, subsided; the urine continued, however, to be purulent. The irritability of the bladder had so far diminished, as to admit of the daily introduction of an elastic bougie, and of its remaining for some time in the bladder. At the beginning of April, 1827, the health of the patient appeared to be so much improved, that it was thought advisable not to delay the operation any longer.

An injection of tepid water was made, and although performed with the greatest caution, this part of the operation, as well as the introduction of the small forceps, appeared to cause excessive pain, and made the patient almost intractable: at last M. Civiale succeeded in taking hold of the stone. The forceps being of smaller dimensions than usual, and the stone, on account of the great sufferings of the patient, not being well fixed, only a small part of it could be reduced to powder. Some slight irritation of the bladder followed this first attempt, and the quantity of purulent matter in the urine increased; however, in a short time, this exacerbation was subdued, and the patient appeared to experience much more relief than was expected.

On the 31st of May the operation was repeated, but without much success.

On the 9th of June, the patient seemed less affected by the introduction of the forceps, and a considerable portion of the stone was reduced to powder, and afterwards voided with the urine.

On the 14th of June, the operator was able to introduce a larger pair of forceps, and a great quantity of powder and fragments of the stone was passed after the operation.

At the fifth operation, which was very successful, the patient felt scacely any pain; but, on the following evening, inflammation of the left testicle and spermatic chord ensued: by the means of leeches, poultices, and absolute quiet, these symptoms subsided within a fortnight.

The sixth and seventh operations were not followed by any bad symptom, and a great portion of the stone was removed in powder and small pieces.

The eighth operation seemed to have completed the cure, and, on the 1st of August, the health was almost perfectly restored; the urine was passed regularly without any pain, the patient had regained his strength, the fever had entirely disappeared, &c.

On the 6th of August, on examination, some fragments were discovered, which were easily reduced to powder, or extracted.

On further repeated examinations, no trace of any remaining fragments could be found, and the patient, at the time of drawing up the report, (in the middle of 1828,) enjoyed excellent health.

From the London Medical Gazette.

HYDATID OF THE LIVER.

Watery and serous, as well as bilious, sanguineous, or purulent collections of the liver, were, until lately, looked upon as very obscure diseases, which frequently remain unknown until death. M. Recamier has cleared up the diagnosis in a very great degree. He forms so accurate a judgment of these affections that strangers, astonished at his success, have attributed it to a species of *medical instinct*, which at first sight teachers him the nature of the disease. The following case will give an idea of the nature of the cysts of the liver, and the mode of operating practised by M. Recamier in order to effect their cure. The cellular tissue is that, without doubt, which is most commonly developed in the liver: it is that which generally forms the parietes of cysts either containing hydatids or not; it extends itself as a dilatable membrane, secretes a peculiar fluid, and this fluid tends in itself also to augment the capacity of this accidential membrane. The patient whose case we are about to relate, named Marcon, 38 years of age, followed a sedentary emyloyment in one of the lowest quarters of Paris. When interrogated as to his former state of health and other circumstances, he said that he had twice suffered from tertian fever, and about five years ago had a severe attack of illness, the nature of which he was ignorant of. He had resided eighteen months in Paris, and had appeared to enjoy good health, but a melancholic temperament induced him always to consider his disease in a serious light. For about two years he had experienced an abdominal affection, that gave him great uneasiness. At that period he remarked a small tumour about the epigastric region; it disappeared, however, according to his account, and only again became visible about three weeks before his admission into the Hôtel Dieu, which was on the 21st June.

The epigastrium began to swell about the end of May, but without pain: in fact the formation of these cysts is seldom accompanied by any previous inflammation, and this is the case with regard to many other affections of the liver, and accounts for the frequent errors of diagnosis that are committed. Marcon perceived the tumefaction to augment considerably during the eight days previous to his admission into the hospital, and then lancinating pains in this region were first felt. On the 17th June he began to vomit every kind of food, generally a few minutes after swallowing it—sometimes a quarter or half an hour after, but seldom more. On the 20th June the tumour was found to be very painful to the touch, but the patient had no fever, and what is of importance in the diagnosis, he declared that he had not experienced any feverish attack from the commencement of the disease. We must here remark that the tertian which the patient had been affected with a long time before, appeared to have no connexion with the present malady.

On the 21st the tumour had become still larger, and the pains extended to the navel. Twelve leeches were applied, and the patient was put into a warm bath. From the 23d to the 26th the symptoms became more serious, the sleep was interrupted, and violent pains were felt throughout the whole extent of the tumour. Twelve more leeches were applied, warm baths employed, and two ounces of castor oil given to overcome the constipation.

On the 27th the patient was better. The tumour occupied the whole epigastrium, and it was easy to trace its boundaries inferiorly. M. Recamier declared the nature of the tumour, and after having employed percussion several times, proposed to make a puncture. Percussion alone, he observed, furnishes important information relative to the existence of hydatids: a kind of trembling is produced, which an experienced hand cannot mistake, and which is not felt in any other case.

M. Recamier calls his exploratory puncture a true acupuncture, on account of the smallness of the instrument which he employs. The fluid which issues forth shows him the precise nature of the affection; and upon seeing the liquor that escaped in this case, he confirmed the diagnosis he had already given. A piece of potash was applied, according to the method of the professor, in order to determine the adhesive inflammation. The day following an oval-shaped eschar was produced, the largest diameter of which was from above downwards. Barley-water was prescribed for the patient's drink, and on the 29th another piece of potash was applied. On the 1st of July two ounces of castor oil were required, to remove constipation, and a third application of the caustic was made. The pain in the cyst augmented, and fever came on. The eschar had not fallen out on the 7th, but the neighbouring inflammation having developed itself properly, a tolerably deep incision was made in the whole line with the bistoury. This gave vent to about half a pint of serosity slighty turbid. The day after about a pint escaped. The patient, however, continued to suffer great pain, and complained of general uneasiness. In all such cavities M. Recamier considers it as highly important to prevent the introduction of air. It is the same in the synovial cavities and in the pleura, after the operation for empyema; if the air penetrates the discharge puts on a bad character, hectic fever becomes lighted up, and the patient perishes. A sufficient quantity of Eau de Guimauve was therefore injected into the cavity, to fill it. The patient from this period found himself much better; the fever entirely ceased, and the abdomen became less tender upon pressure. Emollient drinks, baths, and cataplasms, were the only remedies employed.

On the 12th the tumour was dispersed, and on the following day the amendment was still more evident. Nevertheless the patient was sombre and morose, and still persisted in viewing his situation in the most unfavourable light; even to the end of July he appeared discouraged.

On the 5th of August the belly was still a little painful, and appeared larger than natural, and its sensibility was yet considerable in the epigastric region. A fresh puncture was made, and immediately a fluid of the most fœtid odour escaped: hydatids were voided with the fluid which was contained in the cyst. The day following the patient found himself much better, and some little time afterwards his spirits began to revive. Every day the dressing was performed with great nicety; the artificial opening was preserved by means of sponge lint, and the quantity of fluid injected became smaller. The parietes of the cyst were discharged in fragments with the fluid, which afterwards was strongly tinged with yellow. The state of the patient is now satisfactory; the appetite begins to revive, he lies upon the side and sleeps all night, and the capacity of the cyst diminishes every day.

From the London Medical Gazette.

PERFORATION OF THE INTESTINES BY A WORM. By Mr. Kell.

William Whittaker, ætat. 25, of a florid complexion, stout and well made, rather short; has served two years and six months east of the Cape of Good Hope, and enjoyed good health since his arrival here. Complains of having severe pain in the epigastric region; cannot rest on either side; pulse 76; tongue is dry and furred; thirst urgent; head slightly painful; skin hot; urine high coloured. He was admitted into hospital at a late hour in the night, and had a purging draught, which has operated thrice.

Six o'clock, A. M.—Emitt. sanguinis unciæ triginta duo. Sumat statim, Hydrargyri Submuriatis gran. quinque. ℞ Infus. Sennæ, ℥iij. Magnesiæ Sulphatis, ʒiv. M. Fiat haustus, post horas quatuor sumend.

Vespere.—The pain in the epigastric region not less; purged frequently; the blood firm, not buffed.

App. Emplast Lyttæ parti dolenti.

14th Nov.—He slept little during the night, which he attributes to the pain of the blister. His bowels continue free; stools liquid and yellow; urine high-coloured and scanty; surface hot; tongue white; thirst urgent; pain in the epigastrium rather diminished; pulse 76, full; no appetite.

Sumat mane nocteque Hydrargyri Submuriatis gr. quinque.

Infric. Cruribus bis in die Unguent. Hydrargyri drach. dimid.

Vespere, 14th.—His bowels continue free. Evacuations liquid and yellow.

15th Nov.—Complains of pain in the epigastrium, lumbar region, and lower extremities. Slept some hours during the night. Pulse 84; skin hot; tongue furred; great thirst. Bowels are loose; stools liquid, and of a yellow colour; urine scanty.

℞ Pulveris Antimonialis gran. duo. Hydr. Submuriatis gran. tria. M. Cons. Rosæ, q. s. Fiat pilula sextâ quaque horâ sumenda.

Omitt. Ung. Hydrargyri heri prescript.

3 o'clock, P. M.—Reports not being purged since morning, and of having once passed a little urine. Pain felt in the hypogastric region and along the perineum. Pulse small; tongue furred.

Sumat statim Olei Ricini Unciam. Semicupium quam primum.

15th, *Vespere.*—He has been purged once since taking the oil, and passed a little urine. Pain is rather less; *abdomen more full* than in the morning.

℞ Ætheris Nitrici, ʒij. Aquæ Ammon. Acet. ʒiv. Oryzæ, Oi. M. pro potu ordinario.

16th Nov. 6 o'clock, A. M.—He complains of most distressing pain in the lower part of the abdomen. Pulse small, weak and frequent; tongue furred; thirst very urgent. Perspired much during the night. No urine discharged since last evening, or any alvine evacuation since last report.

℞ Infusi Sennæ ℥iij.; Magnesiæ Sulphatis ʒiij. M. Fiat haustus, statim sumendus.

Habeat quam primum balneum tepidum.

16th,. 9 o'clock A. M.—The cathartic draught rejected, and much bilious fluid discharged from the stomach; has not been purged or passed urine since last report; the abdomen swollen and highly painful. A catheter introduced, and four ounces of dark coloured urine discharged. Remained in the bath thirty minutes.

℞ Opii granum unum; Hydrargyri Submuriatis gr. quinque. M. Fiat pilula, statim sumenda.

℞ Potassæ Supertart. ℥ss.; Aquæ Oryzæ libras duas; Aquæ Ammon. Acetat. ʒiv. M. pro potu ordinario.

℞ Magnesiæ Sulphatis ʒiv.; Decocti Oryzæ ℥xvj.; Olei Olivæ ℥iij. M. Fiat enema, quam primum injiciend.

3 o'clock, P. M.—He has vomited constantly during the day; fluid rejected of a dark green colour; tongue is furred; thirst distressing; surface of the body covered with cold clammy perspiration. The abdomen more swollen, highly painful; and fluid perceptible on examination with the fingers. Pulse small, frequent, and feeble. Has been purged once since last report; desire to pass urine most distressing; and at the patient's request a catheter was introduced, but the bladder contained no urine.

Repet. balneum tepidum. Injiciatur enema emolliens post balneum.

Vespere.—He has been purged thrice since last report; evacuations thin and yellow. Urine suppressed; vomiting constant. Pulse imperceptible at the wrists. The abdomen is more swollen, and fluid more extensively diffused throughout that cavity.

Died at 10 o'clock, P. M. 16th.

Sectio Cadaveris, 17th November, 10 o'clock, A. M.—The abdomen externally presented the appearance of an ascitical subject. On exposing the cavity of the abdomen the omentum was found shrunk and highly inflamed; and amongst the intestines, (between the umbilicus and pubes,) a round worm, (*lumbricus teres*) near eight inches long, was discovered. Several quarts of yellow fluid were diffused through the cavity. The surface of the liver, and other abdominal viscera, were coated with coagulable lymph. The external surface of the intestines was highly inflamed, and the *intestinum ileum*, (about six inches from its union with the cœcum,) had been perforated by the worm, and admitted the fluids contained in the intestinal canal to pass into the cavity of the abdomen. The opening was of a circular form, and corresponding in magnitude to the worm. The liver was not enlarged, its structure healthy; the gall-bladder filled with bile. The kidneys were much enlarged and inflamed. The urinary bladder was sound, and not any urine in it. The thoracic viscera were in a healthy state.

Port Louis, Mauritius, Nov. 13, 1827.

From the Lancet.

CASE OF EXTIRPATION OF THE UTERUS.

By John Maurice Banner, Esq., Surgeon to the North Dispensary, Liverpool.

In May, 1827, I was first called to Mrs. J., on account of retention of urine. On inquiry, it appeared she had suffered occasional shooting pains, from pubes to sacrum, for near two years; that these had become more frequent, were accompanied with pain across the loins, sense of weight within the pelvis, and bearing down, and that she was much troubled with dyspeptic symptoms; I examined the os uteri, and found it painful on being touched, thickened, hard, and irregular. Catamenia were irregular.

The patient was 44 years of age, had enjoyed good health to within the last four years; was married at the age of 21, and had had two children. In a few years her husband died, and since then she has led a very irregular life. She states that her father died of a cancerous affection; that it was twice extirpated from the breast, and subsequently once from the axilla; that at length he died, after suffering severely for several years.

The removal of the neck of the uterus was now proposed, but not assented to.

In July, 1828, I was again requested to visit her. Various remedies had been used by a physician, with no permanent benefit; frequent hemorrhages, to a greater or less extent, had taken place. The pains were increased, and a quantity of bloody offensive matter had passed some weeks previously, per vaginam. On examination, I found that ulceration had taken place to a small extent, on one side of the os uteri. The general health was evidently impaired. In this state, she determined to undergo the operation that had been proposed to her in 1827, which, however, I thought would be unjustifiable, as no boundary to the disease could be felt by the most careful examination, the hardness of the neck appearing to extend to the body of the uterus, as far as could be ascertained. In this state she continued until the beginning of August, when I mentioned to her the operation of Dr. Blundell, with its dangers; informing her, at the same time, that his patient had recovered. She consented to its performance, and requested it might be done without delay.

The operation was therefore performed at noon on the 2d of September, with the assistance of the following gentlemen:—

Dr. Renwick
Mr. Bickersteth } of the Liverpool Infirmary;
Mr. Dawson
Mr. Halton

and my colleague at the Dispensary, Mr. Wainright.

The patient being placed on her back, as in the operation for lithotomy, but without binding the hands and feet, Weiss's speculum vaginæ was introduced, and held by an assistant; a strong hook was then passed into the anterior part of the cervix, and the uterus drawn down, with little difficulty or pain, to about half an inch from the os externum. A strong aneurism needle, (with a handle,) having its extremity pointed, and armed with a double ligature, was then passed through the neck of the uterus, the hook withdrawn, and the ligature held by an assistant, whilst the speculum was also removed, and the labia held out of the way by those on each side. I then made a semicircular incision on the inferior part of the cervix, through the vagina and peritoneum, and widened it with a hernia knife from one broad ligament to the other; afterwards, a similar incision was made at the superior part, and extended as before, so that the broad ligaments and fallopian tubes only remained to be divided. To accomplish this, I first passed the index finger of the left hand through the upper opening, and the middle finger through the lower, including the right broad ligament between them. I then carefully made an incision, with a scalpel, between the fingers and uterus, close to its body; the nearest part of the included portion was thus divided, and was attended with slight hemorrhage. Some time was lost in endeavouring to secure the bleeding vessel, which, however, proved unsuccessful. The hemorrhage not being very profuse, I proceeded with the operation, but finding my former plan of dividing the broad ligament tedious and difficult, I brought down the fundus, by passing two fingers through the upper incision, and then the strong hook between them and the uterus; the point of the hook was easily pressed into the fundus, and thus the object was quickly accomplished. The fallopian tubes and remaining part of the broad ligaments were now distinctly seen, and by passing the fingers beneath them, were divided with the common scalpel, close to the uterus. This was by far the most painful part of the proceeding.

During the operation the patient lost about six ounces of blood, and was much troubled with retching. The intestines did not protrude, nor interfere with any part of the operation. Immediately after the patient appeared as well as could be expected; there was a very slight oozing of blood, but apparently of so little consequence that she was removed to bed. In the course of twenty minutes, or half an hour, she vomited severely, and became very faint; a coagulum of about eight ounces was expelled: vinegar and water were applied to the abdomen and upper part of the thighs; she then rallied a little, and after complaining some time of pain at the lower part of the abdomen, the vomiting recurring, another coagulum, rather larger than the first, was expelled. She now fell into a state of syncope; the retching remained severe, and almost incessant. One hundred drops of laudanum were given, but immediately rejected; small quantities of brandy were administered, the cold cloths continued, and the patient kept in the horizontal position. The hemorrhage did not return after the expulsion of the second coagulum, and the pain in the abdomen subsided. She again rallied, and, in the evening, as the vomiting continued extremely distressing, two grains of opium were given, which relieved for two hours; the sickness then returned, and four grains were given, with the same effect as the first dose.

Sept. 3, *mane.* Has passed a very restless night; countenance pale and dejected; pulse 96, and weak; skin moist, and of a natural temperature; slight pain in the abdomen and back; vomiting less frequent.

Meridie. Slight distention of the abdomen, especially over the pubes; has not passed any urine since the operation, nor had any evacuation from the bowels. The catheter was introduced, and twelve ounces of high coloured urine drawn off; afterwards the tension was much diminished.

Vespere. Bowels purged freely by injections, and small doses of sulphate of magnesia in infusion of roses; vomiting and pain relieved.

Sept. 4, *mane.* Has passed a better night, having slept a little; general appearance as yesterday; pain in the abdomen slightly increased on pressure; little or no tension; pulse 94, rather fuller; vomiting much the same; tongue slightly furred; complains of great thirst; bowels freely open; passed urine twice.

Meridie. Pulse 106, harder; pain and tension slightly increased; bowels open; 24 leeches were applied.

Vespere. Pain little abated; pulse remains quick, and rather hard; about twelve ounces of blood were taken from the arm, when syncope supervened.

5, *mane.* Has passed a restless night; pain much relieved after the bleeding; the abdomen remains slightly distended, and somewhat tender on pressure; has had two evacuations, and passes her urine freely; vomiting continues, and appears to produce great exhaustion; pulse 120, small and weak; the mustard cataplasm was applied, which gave relief in about twenty minutes.

Meridie. Pain and tension less; vomiting and thirst much abated.

Vespere. The symptoms above mentioned worse; pulse very quick and weak; countenance anxious; cold sweats.

6. After passing a very restless night, and the symptoms continuing with great violence, died at six, A. M.

The above are the most prominent symptoms that occurred. I have thought it unnecessary to make a longer detail of the treatment, as it was not attended with a fortunate result, and was only that usually employed after hernia, and similar operations. It of course consisted of general and local bleeding, with the exhibition of purgatives, as far as the condition of the patient appeared to warrant.

The Appearances of the Uterus.—The uterus was much larger than in the healthy state; several tubercles of various sizes were loosely attached to the body and fundus, they were round and very hard; the cervix and body were considerably thicker and harder than natural; ulceration had taken place on the os uteri, particularly the lower lip. A section of the uterus exhibited the common appearances of scirrhus; a circumscribed hardness was very perceptible, extending from the cervix to the body on the left side: several small, round, hard tumours were imbedded in the substance of the fundus.

Examination of the Body five hours after Death.—On exposing the cavity of the abdomen, the omentum and intestines were found highly inflamed, and adherent to each other by an effusion of lymph. Several folds of small intestines filled the pelvis, and were more inflamed and adherent than those above. The lowest convolutions were firmly adherent to the cut surfaces made in the operation and to each other, so as completely to close the aperture from within; only a small quantity of serum was effused. The bladder was natural. The peritoneum, lining the pelvis, had, in general, a greenish and somewhat dull appearance, which, by some present, was thought to be of a gangrenous character, but its texture was perfectly firm and unyielding. The ovaria were retained in their usual position by the remainder of the round and broad ligaments. The fimbriated extremity of the left fallopian tube was found closed, and distended with serum, nearly to the size of a hen's egg, and gradually narrowing along an inch of the tube to a point, where it was again closed. The ovaria were, as is usual in persons who have borne children, flattened and corrugated, as if covered with cicatrices. The duplicatures of peritoneum, forming the broad ligaments, were more separated below than above, where they enclose the ovaria, and were thus kept in union. A very careful examination was made to discover, if possible, the sources of hemorrhage. The arteries were probably retracted, as none could be found divided, but the mouths of several considerable veins were seen distinctly on the right side, where the layers of the broad ligament were separated, and traced to the plexus at the side of the pelvis. The branches of the internal iliac on this side, and the spermatic arteries, were examined, but no irregularity as to size or distribution was discovered.

The following are a few observations I beg to offer on the above operation, and its consequences:—

1st. I think it due to myself and the profession to state, that it was not done precipitately. I had been in attendance, more or less, for sixteen months; the woman was in great and almost constant pain, rendered unable to follow any occupation, and was extremely anxious to have some method of relief attempted; the disease was advancing, the operation and its dangers were fairly explained, and she persisted in wishing its performance. These circumstances appear to me absolutely requisite to warrant the performance of so formidable an operation. Dr. Blundell appears to have taken the same view of his case.

2dly. The operation performed on this occasion, I conceive, admits of more safety and expedition than that performed by Dr. Blundell. There was no difficulty, nor much pain, in bringing down the cervix uteri within sight, when two important parts of the operation were performed, without any danger of wounding either the rectum or the bladder.

The fundus uteri was drawn down through

the upper opening, which, as it was thus brought in the direction of the round ligament, appears preferable to bringing it through the inferior or lower one. Whether it would be better, in a future operation, to divide the broad ligaments *in situ*, without bringing down the fundus, which certainly commits a degree of violence to the parts, I leave for experience to decide; I found it more difficult than I had anticipated, from the great depth I had to reach, and, after making one or two attempts, and wishing to shorten the operation as much as possible, I desisted.

3dly. The hemorrhage, at least as far as a careful examination of arteries uninjected may be depended upon, arose, not from the division of any vessel that ought not to have been divided, but chiefly from those common to the uterus. One or two rather large veins, coming off from the plexus at the side of the pelvis, were found divided; and when it is remembered that these veins have no valves, it is not unlikely a very considerable hemorrhage may have proceeded from this source alone.

The operation lasted twenty-five minutes, and would have been much shorter, if some time had not been lost in endeavouring to secure the bleeding vessel.

From the London Medical Gazette.

EXTIRPATION OF THE UTERUS.

This operation has been performed under different circumstances, which require to be distinguished, to prevent the results in one class of cases from influencing our estimate of the operation in cases which are dissimilar.

1st. Osiander performed the excision of the neck of the uterus, and M. Lisfranc has repeated it so often, that there can be no doubt of its being in many instances an operaation without pain or danger. No one, however, who knows the subject accurately, can read these cases without seeing that the operation was in the great number of instances unnecessary, from the absence of malignant disease, while in those cases in which such disease was present it was unsuccessful. What is called cancer of the uterus is seldom or never so confined to its neck that the removal of this part will remove the disease; and all that these operations prove is, that the operators know little of the disease which they imagine they are extirpating, and that the excision of the neck of the uterus is not attended with so much danger as might have been anticipated. Let not, however, the impunity with which the neck of the uterus has been removed be confounded with the result of extirpating the whole organ—they are entirely different operations; and what is true of the former, throws no light on the latter.

2dly. Cancer has occurred conjoined with a complete collapse of the uterus, so that the whole organ has protruded externally, and has been removed by a ligature round the inverted vagina, above the tumour. As this compound case occurs very rarely, this operation very seldom admits of being performed.

3dly. The inverted uterus has been removed successfully by ligature. In this operation it is the fundus and part of the body only which are removed; the rest of the body, and the neck, through the orifice of which they had protruded, being left behind.

4thly. The whole uterus, in its natural situation, has been removed in a considerable number of cases on the continent, and lately by Dr. Blundell in this country. A month or two ago this enterprising practitioner favoured us with the details of a successful case, which has produced a strong sensation among the practitioners of England. We learn, on unquestionable authority, that he has since then performed the operation again, and that the patient died, (it is said of hemorrhage,) within six hours afterwards. We know, on equally good authority, that he had performed the operation some time before the successful case, and that the patient died soon after in a state of collapse, without any hemorrhage to explain it. Of the three operations, therefore, which Dr. Blundell has performed, only one has been successful,—the two others being followed by the speedy death of the patients.

In our last Gazette we published a case in which this operation was performed by Mr. Banner, the surgeon of Liverpool; and in which the woman died on the fourth day after the operation. We applaud the conduct of Mr. Banner on this occasion—not merely for the dexterity with which he seems to have operated, but for the courage and candour with which he comes forward and publishes an unsuccessful case.

The extirpation of the whole uterus has now been performed in England four times within the last two years; three times by Dr. Blundell, and once by Mr. Banner of Liverpool: of these cases one only has recovered; the three others have lost their lives. It is important that this should be known, that those who venture on the operation may be fully acquainted with the slight chance which it affords of success. The extirpation of the whole uterus may be called the forlorn hope of surgery—a kind of lover's leap; in which most of those who take it perish in the attempt, but those few who escape alive are cured.

We sincerely hope, and fully expect, that Dr. Blundell, having published his solitary case of success, will publish also his two unsuccessful cases; for on such a subject, not only the truth, but the whole truth, ought to be told, in order to guide the profession right in so difficult and important a question. It may be some time before he has leisure to draw up an account of the particulars; in the meanwhile this general statement may supply its place, and is especially necessary, because cases are continually occurring in which the propriety of performing the operation will have to be discussed, and which renders an accurate estimate of its dangers of the utmost value. Let it be remembered that out of four cases in which the uterus has been extirpated in England three have proved fatal.*

From the Medico-Chirurgical Review.

DISEASES PRODUCED BY MALARIA.

An Essay on the Remittent and Intermittent Diseases, including Marsh Fever, Neuralgia, Dysentery, Cholera, Tic Douloureux, Sciatica, Headach, Palsy, &c. &c. By JOHN MACCULLOCH, M.D., F.R.S

[ART. II.]

DYSENTERY—CHOLERA—AGUE.

In pursuance of our design to exhibit an extensive survey of our ingenious author's researches, we naturally turn from remittent fever to dysentery, cholera, and ague. This last malady is now very generally prevalent over England, though masked and disguised in a thousand different shapes. We, therefore, intreat a patient and very careful perusal of the following article, and we beg that each practitioner will look round him, with an unprejudiced eye, for proofs or refutations of the views here taken. This exercise of his intellects will be amply rapid in the end.

In respect to the first of these scourges of the human race, although Dr. Macculloch has but little personal experience, he has ample materials to draw upon in support of his doctrines, from the experience of others. Very few authors have written on dysentery, without tracing its cause, especially when epidemic or endemic, to terrestrial or aerial influence—aerial *impregnations* being as often blamed as atmospheric *vicissitudes.* The connexion of this disease with intermittent and remittent fevers has been remarked by all writers. The *nature* of this connexion, that is, the *proximate cause*, or condition of dysentery, is rather timidly, if not reluctantly, touched on by Dr. M.

"To illustrate, slenderly, what is here meant, we have, in severe cases of the remittent fever, that local affection of the stomach which causes the black vomit, that analogous one of the liver which produces what are called bilious symptoms, affections of the head, and so forth, besides all the more radidly local and partial diseases of which I have here treated at some length. It is not therefore difficult to comprehend, yet very generally and broadly, how such localization, or determination to the intestines, may produce dysentery; while this will vary as fever is conspicuously combined with it, or as the local affection is such as to supersede in a great degree the general one: while yet further, it is easy to imagine that if the affection in question should attach preferably to one or to another portion of the intestines, to the duodenum for example in one case and to the colon in another, (a fact very conceivable from their differences in character, structure, or sensibility,) all the varieties of dysentery as to the most obvious effects might be the result." Vol. I. p. 218.

This view, Dr. M. observes, becomes nearly identical with "that French theory, often differing from former ones only in its term," which supposes dysentery to be an enteritis, *i. e.* inflammation of the mucous membrane of the small or great intestines. The difficulty, as Dr. M. justly remarks, lies in accounting for the morbific miasm or malaria producing in one man a remittent, in a second, an intermittent, and, in a third, dysentery. Our author conceives that there is little, if any, real distinction between diarrhœa and dysentery. He evidently believes that the late endemic at the Penitentiary was the product of malaria, a doctrine, by the way, which is not impugned by the succeeding healthiness of the place. In all parts of the world, we see localities healty for a series of years, and then suddenly, and without any ostensible cause, becoming completely pestilential. The East and West Indies, the Nertherlands—in short, all parts of Europe furnish abundant examples. Dysentery, in this kingdom, is seldom severe or dangerous, and its treatment is pretty well understood. In tropical climates, where the disease rages on a larger scale, medical practitioners are also pretty much of one opinion as to the treatment.

In respect to cholera, we have always maintained that it is the product of some deleterious agent, emanating from the earth, and more or less diffused in the air. Dr. M. has come to the same conclusion. The following is one of the facts which have led him to this conclusion.

"A frigate had cruised long on the coasts of India where this disease was raging on shore, retaining her health, however, and, as was believed, by rigidly avoiding any communication with, or even approach to the land; the captain's conduct in this respect having arisen from his experience of African fevers. Being on one occasion at anchor about three miles from the shore, the land wind came off to the vessel, and with such effect, that the usual smell attending malaria, well known to the officers and men from African experience, was immediately sensible. There was not at this time a sick man on board, while there had been no communication with the land for many weeks: and the alarm being immediately taken, the vessel was ordered to weigh for sea; while, as had been the constant practice, every man not wanted on deck, was ordered below, for the purpose of avoiding the effect of the malaria thus blown off to sea in the manner which I have described in the essay on that subject. An accident having happened to the iron-cable, the armourer was the first man employed, almost alone, on deck, in disengaging it; and though in perfect health when he came up, he was immediately seized with giddiness, was quickly rendered incapable of proceeding with his work, became insensible within three hours, and died of this cholera, which also seized on four of the crew before the vessel could get under weigh; the whole of them dying in the same manner." 222.

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* Since writing the above, we have heard that the operation has been performed in Edinburgh, by Mr. Lizars.

Dr. M. conjectures that the Indian cholera results from the ordinary miasma of fever in some peculiarly concentrated state, the effects bearing an analogy to what sometimes happens in the plague. The local affections of the stomach, bowels, and liver, are the most prominent features in this dire disease—we might therefore, Dr. M. thinks, consider cholera as a "localized remittent of peculiar severity, and with two or three local affections at one time"—"a fever, in which minutes perform the destructive duty of hours, days, or even weeks; or in which, from its rapidity, there is scarcely an initial stage—as if the disorder commenced where it more usually terminates." With other conjectures, or plausible hypotheses respecting cholera, we shall not trouble our readers, at the present time, but proceed to the next subject.

INTERMITTENT FEVER.

We agree with the author, that there is hardly a fact better established in medecine, than that ague is produced by malaria. He thinks it is by no means proved that there is any other cause—at least of the original disease, or first attack, although various causes may have the power of re-exciting the disease. We shall not follow Dr. M. through a detail of the common phenomena or symptoms of ague:—they have, of late years, been presented pretty generally even to English practitioners. But we shall here notice some very interesting observations which our author has made on certain states of mind attendant on, or connected with intermittents, whether obvious or obscure in their forms. This state of mind is a peculiar irritability or despondency, more especially revealing itself in the cold stage, or incipient movements of the disease.

"It is in fact at times, the sole cold fit, or almost the only disease; though a watchful eye may always discover that it is connected with that collapse of features or change of expression which attends every cold fit of intermittent, and, very commonly, with that peculiar physiognomy, easier recognised than explained, which, to an observant eye, is always sufficient to indicate every disease, general or local, connected with intermittent, or arising from malaria; an appearance which, when more strongly marked in the pallid hue of the face and the shrinking of the nose, ought to decide the question, even to the most negligent observer.

"Of its true nature and case, be the moral results what they may, no doubt can be entertained, because of the suddenness of the attack, and of its periodical character; and it thus happens that in almost a second of time, and even in the midst of active good humour, or passive feelings of comfort or happiness, the fit of ill temper, or irritability, or despair, of a moral change under modes too various to detail, will occur, to last as long as the cold fit would have lasted had it been present; or lasting, when that is visible, just as long as the duration of the peculiar physiognomy which I have described. To be aware of this fact and this cause, on the part of the patient's circle, is to be furnished with reasons for making that charitable excuse which is seldom made, if ever, for what self-control might be supposed capable of preventing, and perhaps not much oftener for what is unavoidable; so rare is this species of charity: for the patient to be aware, himself, of the csuse, is to furnish him with a guide for his own conduct in these circumstances, and a check over the display of those feelings; while it is also to offer him the consolation of knowing that it is his body rather than his mind which is diseased; that his perverted temper is not a moral and voluntary fault or failing; but as involuntary as it is capable of being remedied." 246.

Such a disorder of mind may be readily confounded with hypochondriacism. Such are the milder moral derangements in the milder chronic intermittents.

"But in severe cases of both, the united state of irritability and despair is apt to produce the far more serious effects of stimulating the patient, at least to think of suicide. This insane desire is a very common complaint of patients labouring under intermittent, and a very frequent source of great alarm and horror; while it occurs equally in patients who, before that, were cheerful, as well as youthful, in the female sex as in the male, in persons where, either from previous knowledge of their opinions and charcters, or from observation in absence of the fit, we are quite sure that it cannot depend on a wrong state of mind or of opinions, but is as rigidly a portion of the disease as it is found to be a periodical one." 248.

That such states of mind are very frequently produced by corporeal derangements we well know—and that these bodily affections are not seldom dependent on the impression or reception of malaria, we have strong reason to believe. How generally malaria deranges the functions of the viscera, and especially the liver, stomach, and other digestive organs, need not be told; and that these derangements produce the most dreadful mental despondency, and lead often to suicide, are facts that are every day becoming more obvious to the attentive medical observer.

It is very important that these effects of intermittents should be known and understood both by patient and practitioner—since a knowledge of the real causes will be a great relief to the minds of those who, under such circumstances, are haunted for years with this species of phrensy or mental alienation. The desire for suicide is often exceedingly temporary, even when it is most overpowering; and if controlled with resolution, it soon passes away. To be aware, therefore, of the real nature of the adumbration may frequently tend to obviate its dire effects.

"There is another remark yet, which it may be worth while to make on this mental disease, whether or not it is really connected with intermittent in all cases. I have clearly ascertained it to be so, at least in some; or rather, every instance of the desire or attempt in question under this peculiar variation, which has come under my knowledge, has been a case under intermittent. As relates to the desire, the simple fact is, that the patient feels a species of antipathy against some peculiar part of his body, added to the general disordered feeling, or he longs to commit the act by wounding that particular point; while, whether his aberration amounts to the desire of suicide or not, this very point or place is the one eternally forcing itself on his imagination as an object of hatred and revenge. And so perfectly insane is this feeling, that I have been informed by more than one patient who has suffered from it, that there is no conviction at the same time that death would follow; or rather, that the impression is as if the offending part could be exterminated or cured by the injury, and that the patient would then be well. And that suicide has actually been committed under this particular aberration, is well known from the more curious records of physic; while I need not do more than suggest one peculiar part of the body which has been often the offending and selected point; the act having been sometimes also, but not always, followed by death." 251.

Dr. M., we have no doubt, alludes to those cases of monomania, where men have severed the genital organs, from some momentary impulse of local antipathy or feeling which can only be known by the individual at the time.

"The philosophy of this, as far as my opportunities of observation have gone, and on the indicated ground of explanation, for these cases at least, is, that while the irritable, or jointly despairing and raging or angry state of this chronic fever is present, there is also a particular part of the body affected by an uneasy but undefinable sensation, such that the mind constantly reverts to it as a source of suffering. And if this local affection is not a neuralgia, or a condition of absolute pain, yet it is a local and nervous one of an analogous nature, always returning to that one point under the same stage of the fever or delirium. When, as is not unusual, it is seated in the head, it is even distinguishable by a dull pain, or a confusion, or a sensation of 'buzzing' (for thus it is described by patients,) in one fixed place, indicating pretty clearly its real nature: while, in that particular case, I have the assurance of such patients, that the suicidal desire is exclusively directed to that individual spot, and that while a pistol would be the only acceptable mode, there would also be no satisfaction unless that were directed to this actual and only point. But I will cease, and allow physicians to exert on this solution of no easy question, the ingenuity which has not hitherto succeeded in producing an intelligible explanation." 253.

Our author inclines to the opinion of Strack, that an intermittent fever may consist of only one paroxysm, finding its natural termination after one attack—"and consequently that the fever called ephemera is, in reality, often a single intermittent." Strack observes, that this is the disease which terminates in an eruption on the lips. If Hippocrates is any authority on such a nice point, he may be thrown into the scale with Strack and our present author.

It was, and perhaps still is an opinion, (medical as well as popular) that agues, at least those of Spring, are salutary. This notion was entertained by Boerhaave, and by many great names in our own country! Dr. M. thinks it probable that this idea arose from the fact that ague sometimes removes a chronic disease—or from another fact, that men not unfrequently become fat after a sharp attack of intermittent fever, especially in Flanders. It is curious that this obesity is not prevented by enlarged spleens and other visceral derangements, in many instances:—nay, even the daily paroxysms of ague, if not very violent, are sometimes compatible with an increase of corpulency. In whatever way we may account for this, the fact proves that ague, under ordinary circumstances, is not very prejudicial to the constitution, unless it be protracted or severe. But, on the other hand, we often see rapid emaciation, great loss of muscular power, and visceral derangement superinduced on intermittent fever, in all, but especially in hot and unhealthy climates.

ANOMALOUS, OBSCURE, AND SIMULATING INTERMITTENTS.

Hitherto our author forbore to notice those epidemics, where very marked local inflammations of particular organs were such prominent features as to render the mere fever of comparatively little moment. He reserved them for this place, in order that he might the better illustrate the anomalous, localized, or simulating intermittents, a knowledge of which he considers as of paramount importance. These local inflammations affect almost every structure in the body, from the muscles and ligaments to the most vital organs —simulating or nearly equalling genuine idiopathic inflammations of these several parts, and introducing great diversity of opinion among practitioners as to the nature of the disease and the proper mode of treatment. If these phlegmasiæ occur, and all must acknowledge that they do occur, in marsh or continuous fevers, so it is reasonable to believe that they are attendants on intermittents, which are only kinds of the same fever, and thus they may be productive of great error or delusion.

"The inflammatory, or local affections, be they what they may, may be slender and truly supplementary; but they may also prevail so far above the fever, as in remittent, that they may appear to be a distinct disease, or the superior one; while if, further, the local affection should be permanent or continuous, when the fever has its intermissions, and perhaps long ones, as in quartan, and while, still further, that fever may not be very conspicuous compared to the local symptoms, it is easy to see that erroneous views and erroneous practice may follow." 280.

Dr. M. apologises for dedicating so large a space in his work to an investigation of the chronic forms of anomalous and simulating intermittents; but we think he need not fear censure on this account, for we verily believe this chapter to be one of the most original and valuable in the whole work. We regret indeed, that the tedious tautological *manner* in which he treats his subject, will deter most of the reading practitioners (not a very large proportion) of the day, from profiting by his researches:—since few of them will be at the pains of reading a passage twice, if they do not fully comprehend it at the first glance.

The first subject of investigation is the apoplectic state which sometimes commences the attack of intermittent as well as remittent.

"This state is not limited, either to the first attack or to the acuter forms of these fevers, although in Italy that appears to be the most common mode of its occurrence; as I have seen, in this country, a perfect apoplexy, to the eye, in all its characters, sufficient to deceive both the attending practitioner and the friends, lasting for eight hours, and occurring in a chronic tertian of many years' standing, as a substitute for the cold fit." 287.

The danger that may result in practice, from an error here, is obvious enough. Venesection, to the amount generally employed on such occasions, might occasion palsy or even death—at all events, it would aggravate the symptoms. Dr. M. has seen local and limited paralytic affections produced by this practice, in many instances, "and in more than one, a perfect and incurable hemiplegia." We doubt whether Dr. M. could positively determine that a hemiplegia was thus produced. In common hemiplegia, permanent hemiplegia, there is generally an effused clot of blood; and if so, how can it be positively ascertained whether or not there is extravasation in consequence of venesection unnecessarily employed, without the aid of dissection? By this we do not mean to impugn the doctrine of simulated apoplexy. At page 455 of the 8th volume of this series,* we have stated a very remarkable instance in our practice, and we could adduce several others; but we think that Dr. M. has carried doctrine too far in the above cases of hemiplegia. We could more easily conceive that death would ensue from copious venesection in simulated apoplexy than that permanent hemiplegia should ensue.

"A modified condition of this nature, is the lethargic or comatose state, which occurs in the chronic intermittents as well as in the remittent of that character, and which also sometimes ushers in the first attack of an intermittent, in the same manner as the more perfect apoplexy does. It is incumbent on the practitioner to investigate this symptom or condition where it occurs, much more accurately than it is the custom to do; while it is abundantly easy to discover whether it belongs to this disease or not. To view it as an independent disorder, and as arising, according to the popular and fashionable error, from what is called a flow of blood to the head, is a most unpardonable mistake, from its leading similarly to injurious practice; to blood-letting and to cupping: the consequences of which also are, sometimes, paralytic affections, at others, slight epileptic ones, or even more decided fits of that disease; in others again, a modified fatuity, or a diminution of the intellectual powers, or a condition little short of absolute idiotism: and, even, in the least evil event, a long train of debility and nervous symptoms, with the further frequent consequence, as in the former case, of rendering chronic a disease which would otherwise have terminated by itself, or of protracting much longer and more severely, a disorder already chronic. It is one of the cases, and one of the modes of practice, yet but one out of many, which so often causes medical interference to aggravate the diseases of this nature. I shall only further remark, that this error is most generally committed, as I have seen in numerous instances, and as perhaps might have been anticipated, when the patient is corpulent, or of a certain form, or advanced in life, or when suspected of indulgence in eating and drinking: when it will be fortunate if he escapes blood-letting or cupping, to be simply deprived of the use of wine, or restricted in diet; though even practice of this moderate nature is not always without its bad effects." 289.

Paralytic affections, as occurring in these masked intermittents, are next adverted to by Dr. M. Dr. M. has not found any practitioners "who seem to know that palsy is the frequent produce of malaria, or the substitute for intermittent fever, or a symptom in that disorder." We believe that such cases are not generally known or suspected by British practitioners; but it has long been known that local paralysis, and that too of a very indomitable nature, is a common effect of what is called in hot climates, especially India, "*a stroke of the land-wind.*" Thus a soldier or sailor falls asleep, with some part of the body exposed to the night or land-breeze charged with miasmata from a jungly or marshy district;—and he awakes with the part completely paralytic, never more perhaps to be capable of sense or motion. This is a fact of frequent occurrence, and is strongly confirmative of our author's views.

"Apparently as a substitute for, or modification of, apoplexy or coma, however obscure the exact cause may be in either case, the first attack of an intermittent is sometimes a numbness, or a more perfect paralysis, varying in its extent as well as its severity, so as to affect only a few muscles, in different parts, or else to produce an absolute hemiplegia; which, however, may also be slight as well as complete, or may consist in a numbness or loss of feeling to that extent, without depriving the patient of his command over the muscles. Should the truth of such a cause for palsy be denied on the ground that we cannot explain its action, it must be recollected that it is no more a mystery than the production of apoplexy in the same cases; while the possibility is confirmed by the numerous instances of the same nature which occur, limited to single, and sometimes very small nerves, and either original, or succeeding to painful conditions of those. Every thing indeed tends to show, that if the diseases produced by malaria are not, purely, and all, mere affections of the nervous system, the principal action of this poison is on that system, and the greater proportion of the disorders which are caused by it, disorders of the nerves. Whether the paraplegia so often occurring from exposure to cold, and especially among soldiers in bivouacs, is sometimes, or ever, a disorder of this nature, is a question that I cannot answer from such evidence as I have been able to procure, however this may be suspected in some cases." 292.

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* Vide Journal of Foreign Medicine, vol. ii. p. 189.

If these paralytic affections sometimes usher in a new intermittent disease, being, like coma, a substitute for the cold stage, so has our author seen them occur in the chronic form, and both under circumstances that could admit of no doubt. Thus, in a situation exposed to malaria, and never free from its diseases, in one or other form, a whole family, with the exception of two members, had ague, while these two were attacked with a paralytic affection suddenly—one in the leg and thigh—the other in the arm. In both these individuals, the paralytic affections as suddenly disappeared on the evolution of a regular quotidian ague. The practical error here is the same as in the simulated apoplexy—"the imagining a *flow of blood to the head*—and palsy to be treated by bleeding and evacuants." The result, our author observes, is, in severe attacks, to render that permanent which would only have been temporary, had the doctor not interfered, or had proper means been employed! Of such cases, he says he could state a great number from his own observation. The previous history of the patient, his diseases, his residence, and his treatment, left no doubt in his mind. Dr. M. mentions a few cases from the practice of others, stating the mere facts, and leaving it for the reader to draw his own conclusions.

Two sisters in one family, about the age of 30, were strongly marked with that complexion and physiognomy attendant on splenic disease, and were subject to those strange and anomalous symptoms which spring from chronic intermittents. They had spent a large portion of their time in one of the most pernicious districts of England, and the frequent occurrence of "spasms" led to bleeding in both cases. This was followed by more nervous symptoms, and led, of course, to more bleeding and purging. "The result, in one of these patients, was hemiplegia, and in the other paraplegia—and further bleeding being resorted to for these disorders, both of them died."

The other case was that of an officer, who is supposed to have had an intermittent fever at some previous epoch. "An inexplicable palsy of one limb was here the first occurrence, and, in a man of a constitution and time of life when the usual vulgar cause could not be suspected. Blood-letting was followed by palsy of the other leg; and, on repeating it successively, both arms, one after the other, became similarly affected, so that the patient at length became and remained almost an immoveable carcase." The final issue of this melancholy case is not yet known. Cases are quoted from Keratry and Etmulla bearing upon this point, and then the following is introduced, not very flattering to the "healing art."

"In this example, an officer, a young man, who had suffered from the remittent fever in Spain, was suddenly seized on an English parade with a fit, or what is commonly called such, which was considered as apoplexy; being in reality a return of his intermittent. Being placed under the usual discipline, he was rendered partially paralytic, and at length, under two years of the general routine, became the mere shadow of a man, while previously most robust; losing also, with his strength, the better part of his intellect. Determined at length to join his regiment in the West Indies, he embarked in a transport, where, from there being no surgeon, all medical practices were suspended; from which moment he began to recover, and concluding just what I have here concluded, was in a few months restored to perfect health." 298.

This consequence of the malarious impression (paralysis) is generally admitted by those continental writers who have practised in unhealthy localities, but they have overlooked the share which bleeding and other evacuations may have had in the production or aggravation of the paralytic affection. Dr. M. assures us that his own experience on this point is wide and ample—and that it is far too precise to admit him to surrender his own judgment to the authority of others.

"Of partial palsies in the face, and of more general ones in the legs and in the arms, traced by the patients to cold, and, under my own views, appertaining to intermittent, I have known many instances rendered complete or incurable by blood-letting, when, from my own experience in similar ones, I have reason to believe that they would have passed away had the physician not interfered." 300.

Dr. M. takes occasion here to criticise pretty sharply some recent writers on palsy, for not even noticing, as one of its causes, the impression of malaria, or its consequence intermittent.

"And when I recur to a long series of observation, much more on the practice of others, of course, than in my own, I find such a mass of cases where it was to be often proved, very often suspected, that the paralytic affections arose from this very cause, that I am compelled to conclude that, in the first place, the cause in question is a very general cause of palsy; and, secondly, that the error of practice arising out of a wrong theory and the common one, is the source of the far greater number of incurable palsies daily met with in society; the increase of which also has been notoriously great for some time past, while it bids fair to proceed in augmentation, as the diseases of malaria, from whatever cause arising, are themselves increasing, and as the improper practice to which I have alluded becomes also daily more prevalent." 302.

Besides these more sudden and palpable paralytic affections attendant on masked or open ague, there are others of a more gradual nature, which it is necessary to point out. These, perhaps, will be best understood by the statement of a case. This was an instance of a relapsing or chronic quotidian, where no previous local affection had existed. During the relapses in question, which generally lasted six or eight weeks, there came on gradually a feeling of weakness in one leg and foot, which increased so much during the disorder, that the patient could hardly put that foot to the ground.

"And although there was no pain or neuralgia, it was easy to trace with the finger the course of the fibular nerve from the middle of the leg into the foot; as the slightest passage of the finger over it was attended by the well known tingling sensation produced by a pressed nerve; while a stronger pressure where it is nearest the surface, gave the equally well known shock produced by striking the elbow, in another superficial nerve. It was obvious that the muscles chiefly affected in this case, were those to which this nerve principally belonged, and therefore that it was in a diseased state; that derangement appearing to consist in a diminution of its energy or power, added to an increased or morbid sensibility." 303.

The analogy of this to the proper neuralgia is, Dr. M. thinks, evident; and it must, in his mind, be considered as a modified degree of this malady. In subsequent relapses, the affection of the nerve was exasperated, and, ultimately, the ulnar nerve of each arm became similarly affected, with the same inability to extend the arms, without immediately feeling the tingling, as of a compressed nerve, along the whole course, from the arm-pit to the fingers. Dr. M. thinks that this affection of the nerve, whatever its true nature, must have been strictly local, or what might be termed anatomical—that is, appreciable by dissection. In the case now related, the nerves of the arms recovered, but those of the legs remained disordered for many years afterwards.

Dr. M. proceeds to quote cases from other writers, which, whether designed or not, support the doctrine which he is advocating respecting the connexion between palsy and intermittent. Thus, Sauvages quotes a case from Chaptal, under the very term tertiana hemiplegica, which Dr. M. thinks might have opened his eyes to the connexion in question; but it did not. In another case, quoted by the same learned nosologist, the paralytic affection came on every day, and disappeared with the accession of the proper quotidian.

"Palsy in the form of paraplegia, of a periodical and quotidian intermitting character, is also described by Torti, from Chaptal. Where the same writer, from the same authority, quotes a similar periodical hemiplegia absolutely perfect, while it was quotidian and intermitting, lasting also for ten hours, he remarks that it was always increased by purging as well as by blood-letting, and that on changing the practice, it was cured by bark in nine days. This particular case is of value, as a warning to practitioners; and, from the nature of the attending and preceding symptoms, perhaps of somewhat more value than common." 310.

A case from Morgagni is still more remarkable. In this, one side was permanently paralytic, while the other was attacked every evening with a palsy, which disappeared in the morning—the patient, after seven or eight such fits, dying of peripneumony. Various irregular cases of this kind, where the paralysis was attended with convulsions, are noted by the same author. Neither Morgagni, Sauvages, nor any of the writers on palsy, however, appear to have suspected a connexion between intermittent and that disease. The connexion of apoplexy with intermittent has been largely noticed by Ramazini, who describes the apoplexy as occurring at all periods of the disease, as well as at its commencement. This connexion was also known to Morton, and its nature must have been appreciated, when he prescribes bark for the cure of the apoplexy, as well as the ague. Theon de la Chaume describes an epidemic tertian, accompanied by apoplexy, as prevailing at Ajaccio, in two different years, 1773-8. The same has been often seen in Bresse, the most pestiferous part of the Lyonnais.

"It is a noted fact, that it is the effect of chronic or habitual intermittents to injure or destroy the intellectual faculties, as I had occasion to point out already when treating of remittents. This is notorious in the countries where these disorders prevail, and very remarkably, as I formerly said, in the Maremma of Tuscany, where even absolute idiotism from this cause is common; the fact being marked, even to cursory travellers, by that apathy, listlessness, or indolence of mind, gradually approaching to fatuity, which I formerly described. If the cause be obscure, it cannot well be more obscure than every thing else which belongs to the action of malaria; while the fact of the universal influence of this poison on the nervous system, local as well as general, leaves no difficulty, at least in believing that it may produce such effects on the mind." 322

But ague, for a long period of its existence, only affects the mind with irritability, or increased sensibility, as evinced by peevishness, exaggerated views of evil, increased sensibility to bodily suffering—to say nothing of nervous sensations beyond number. In process of time, however, a train of opposite effects come to prevail. The mind becomes, as it were, torpid, as evinced by listlessness, and submission to present evils, with scarcely a wish to escape them. This is a striking feature in the inhabitants of pestiferous countries. Dr. M. relates some curious instances where, in people who had laboured under this disease, the organs of sense lost their aptitude for pleasurable sensations, "their complaints being, that beautiful objects, such as pictures, natural scenery, &c., which, before that, or when in health, had been most pleasurable or engaging, seemed to make no impression at all on the sense."

"From such patients I have received also the same complaints and statements, with respect to the other usual causes of simple pleasurable feelings; and very particularly from those who, as musicians, were accustomed to delight in music, not less from science than feeling; those being, that they seemed to suffer under a positive insensibility as to what used to be a source of the most refined delight, although labouring under no affection of the temper, nor any of those sensations commonly called hypochondriacal. And thus have others complained that the most grateful odours had ceased to give pleasure, that the scent of a rose was not only powerless, but produced absolute pain by reminding them of what it once was; while every attempt to revive the former associations connected with this and other similar objects of delight, was unavailing." 325.

This *mutatis mutandis*, Dr. M. thinks, is precisely the progress in those cases where single nerves are affected, instead of the whole cerebral system. "In the neuralgia, the first action of the cause is an increase of sensibility, reaching to the highest imaginable degree of pain;" but the progress of this is to palsy—"or the excessive sensibility is succeeded by a diminished one," as if the sensibility were exhausted by the previous over-excitement.

After many ingenious and interesting observations on *periodical* mania, vomiting, hysteria, palpitation, and other irregular modes or forms of intermittent, our author comes to the occasional connexion of rheumatism with malarious diseases. Dr. M. without attempting to unravel the difficult pathology of this disease, trusts that he will be able to prove that there are cases which belong to intermittent—"cases bearing an analogy to certain modes of neuralgia, and possibly differing from it, by the affections being seated in the numerous and minute ramifications of a nerve, instead of attacking a trunk, or a leading branch."

"The most simple case of all, while it is one that ought never to be mistaken, is that where a rheumatic pain in some particular muscle is strictly periodical, returning and ceasing in regular paroxysms. In such cases, the part affected may sometimes be exceedingly limited, occupying only a few fibres of a muscle, though, even then, the pain is often severe; while in others, the extent may be very considerable. Thus even the whole body may suffer under it; or rather there may be so many different muscles affected, in some place or other, that scarcely any movement can be made in which some one or more of the disordered portions is not brought into action; conveying thus, to the patient, the feelings as of an universal rheumatism." 369.

Such a periodical recurrence, he observes, might satisfy a practitioner respecting the true nature of the disease; but it will often be attended with other symptoms, explanatory of its cause. Thus, it will be found to occur in persons who have been previously affected by intermittents, forming in itself a period of relapse, and a substitute for the more common modes of chronic disease. In other cases, the rheumatic pains will alternate with some of the other marked symptoms belonging to this disease:—or it may cease on the appearance of the common symptoms of intermittent.

Dr. M. tells us that there is a certain *physiognomy of the cold stage*, however wanting the actual feeling of cold may be, which is never absent at some period or other of this, and of all other malarious diseases, and which has, on endless occasions, enabled him to pronounce, from the first sight of the patient, on the nature of the disorder to which he has been summoned, with the assurance of its mysterious nature by the medical attendant. The power of distinguishing this physiognomy, however, requires the TACTUS ERUDITUS of the experienced practitioner.

The kind of rheumatism here alluded to, as connected with intermittent, will, of course, be generally of the chronic kind, and our author does not attempt to say what proportion they bear to the common rheumatism, dependent on other causes; but he thinks it probable that they form a considerable proportion of what pass under the name of chronic rheumatism.

"The more serious question remains; whether that which is esteemed acute rheumatism, a disorder too well defined and too familiar to require description here, may be a mode of intermittent. I do not mean to suggest at present, that every acute rheumatism is a disorder belonging to this class of diseases, or that, as in the chronic variety, there are not cases which are independent disorders, or affections generically different, although it seems to me, that even this is a question far from decided the other way. The question at present is, whether there are not acute rheumatisms of the most regular form, which are truly modes of the quotidian intermittent, or of the remittent, possibly, originating in the same causes: and if it shall be decided that this is the fact, and that there is also an acute rheumatism generically different, then we shall probably be able to explain the causes of the contests so long maintained respecting the use of bark in this disease.

"The facts which would seem to prove this opinion are chiefly these. There is a periodical exacerbation, if there is not always an absolute remission of the pains; and the duration of the disease is very analogous to that of a remittent, or of one period of an intermittent. The causes correspond, if they are not identical, while the remedy is often the same; since, after all that has been disputed, there is no doubt that many cases are cured by bark, and that blood-letting is not only often ineffectual, but pernicious; its action altogether, being, in fact, very similar to that which it exerts on remitting and severe intermitting fevers." 375.

Thus, while in acute rheumatism, the misapplication or abuse of blood-letting often produces the chronic disease; so, a similar practice frequently induces the chronic state of intermittent—or converts an acute and terminable case into a durable one.

"It is not impossible also that the termination of the pains of acute rheumatism, succeeded by affection of the brain, and so often producing death, may be an analogy to what happens in other cases of intermittent diseases, where one local affection is exchanged for another, or disappears, to be replaced by an augmentation of the general fever." 376.

We are so far outstripping our limits that we must pass over our author's investigation of those cases of pleuritic and catarrhal affections, anginæ, hepatitis, gastric and splenic disorders, ophthalmia, &c., which occasionally assume a remittent form, and depend on a malarious cause. Every man must have repeatedly seen rheumatism of the intercostal muscles mistaken for pleurisy, and venesection injuriously, or at least injudiciously resorted to for its cure.

"If I have seen constitutions utterly ruined by a perseverance in this wrong practice, if I have seen patients condemned to believe themselves labouring under consumption in these cases, with all the expensive and vexatious consequences that follow such an error, there are doubtless many physicians to whom the same facts have occurred." 380.

Yet it is by no means difficult to distinguish between the internal and external complaint, even without the aid of percussion or auscultation. The following case is interesting, and we shall introduce it here.

"The patient was a young man in the higher rank of life, and the pain in the side was termed pleurisy, though no cough was present, and very little fever; so little, that not even confinement to bed was necessary. Blood-letting was resorted to, very actively, and was followed by increase of the pains; and, not to prolong a tedious history, these pains continued or returned occasionally, during nearly a whole year, while, during all that time, this remedy was repeated, often, many times in a week. If it was plain that this, by merely negative reasoning, must have been a rheumatic disorder, there was even much plainer evidence, in the periodical returns of the pain, after some weeks, that it was also the intermitting disease; while the physiognomy and appearance marked, once in every day, a decided cold stage. Still further, after about five months, there came on a pain in the shin bone of one leg, regularly periodical, and lasting five hours; during which, the rheumatic pains among the ribs diminished or ceased, yet without leading the physicians to a correct judgment of this case, as it ought to have done; being a true neuralgia, interchanging partially with the original intermitting rheumatism." 382.

This case was considered to be a wonderful and mysterious one, and it was proposed to make an incision through the periosteum, on a supposition that the bone was diseased. The patient's health was greatly reduced, and he did not recover strength for many years, when the disease terminated in a regular ague that has harassed him ever since in a chronic form!

Among other intermittent rheumatisms, Dr. M. notices lumbago, which is, at least sometimes, a modification of the class now under discussion. One case is mentioned where, what was called a regular lumbago, and treated as such, "was suddenly and spontaneously removed, and immediately succeeded by the common neuralgia of the face." A similar case is recorded by Dr. Pearson. Dr. M. considers those pains situated in non-muscular parts, as improperly denominated rheumatism. They belong to the neuralgiæ, as those of the face and head.

"There is something singularly periodical in the attacks of a catarrh which often comes on in summer, and, as it would appear, most commonly from exposure, not simply to heat it would generally seem, but to heat where vegetation is present. This well known disorder is produced by hot-houses or green-houses; and, in the public estimation, it is particularly caused by hay-fields. Hence the term hay-fever, lately become fashionable." 394.

Dr. M. has not much experience of this disorder, but he knows that it is one which is aggravated by the remedies which aggravate intermittents—namely, blood-letting and other evacuations. Dr. Bostock, who appears to have suffered from this complaint in person, has given a full account of it.

We must pass over a great many complaints of a periodical character, and which are not improperly classed among those dependent on a malarious origin, in order that we may dedicate a few pages to therapeutics.

TREATMENT OF INTERMITTENTS.

Dr. M. does not pretend, of course, to offer any new cure for this class of complaints; but he has dedicated a large space to comments on those modes of treatment which have been employed by others. He observes, that the remedies which will cure a recent intermittent, will be much less efficacious in one of long duration or relapse—but he does not conceive that any distinction is necessary as to the types of intermittent maladies—"since, in all of these, the remedies are the same," requiring only such modifications as the obvious circumstances of the case may indicate.

The simplest remedies are those which act on or through the mind, and—"their number is far greater than I choose here to record." Their action is undoubted—but they are best suited to new attacks of new diseases. There is no evidence of their efficacy in remittents, and it is curious that remedies of this class have been more successful in stopping tertian than quotidian agues. Without *faith* in their power, they are nugatory—and this explains the rationale of their operation in most cases, in conjunction with disgust, fear, and other strong mental impressions. Under this head (Dr. M. thinks) must be classed "a vast catalogue of internal medicines of the most discordant properties or of no properties at all." He is of opinion that bark itself sometimes acts in this way—namely, by *confidence.*—Spiders' webs may act by disgust or horror, and so on.

The next class of remedies includes those which make a powerful impression on the system, and especially on the stomach, immediately before or soon after the commencement of the fit—by which the paroxysm is prevented or abridged. Alcohol, opium, spices, are the basis of this class. Those medicines which we term tonic, as bark and arsenic, are next noticed by our author. He cannot conceive why they should have the term *tonic* applied to them, "so unphilosophically lax are the ideas attached to that term." After some general observations on the management of the three stages of the paroxysms, Dr. M. comes to make some comments on the administration of particular remedies, beginning with the bark. Between the foreign practice of giving as large a quantity of bark as can be taken, within one, two, or more intervals, and then ceasing for a time, and the English method of giving the medicine in less quantities, "persevering without limit," Dr. M. finds it difficult to decide, as to the comparative advantages.

"But while I must return to this question immediately, one remark seems well founded, however, often neglected; and it is, that the perseverance in bark beyond a few days is nearly useless; while, if it has been said that whenever it offends the stomach, it produces no good effect, this is contradicted, as I shall presently show, by other physicians. And further, it seems often true, while even less known, that where a large dose is inefficacious, a small one is often useful; or, in reality, that ten or fifteen grains will sometimes produce a better effect than a drachm. Of the various preparations, the now common combination of kina, its sulphate, seems the only one which deserves a preference to the bark in substance, while it will probably prove to be in every instance preferable." 445.

Dr. M. next gives the opinions of various authors as to bark; but these we need not enumerate, nor even notice. We shall stop for a few minutes, however, on the subject of arsenic, a remedy that "has been lauded beyond its merits, and often also condemned and shunned, rather from the fear excited by its name than any thing else." The following sentiments coincide very nearly with our own experience.

"I have little, therefore, but my own experience to judge from; and this is, in the first place, that it is less efficacious than bark in diseases of a highly febrile character and of long duration; or that as the intermittent approaches nearer to the remittent, arsenic becomes an uncertain remedy, and that in the very chronic disease it appears to me to possess no power at all; though I know not, that, in these latter cases, it is more nugatory than any other remedy. In a new and a very simple intermittent, and in the tertian particularly, it seems to offer a more rapid remedy than bark, while its superior convenience is manifest.

"But if I were to compare it with bark in those cases where the disease puts on the anomalous symptoms or characters which I have described, I should often judge it a more effectual remedy than that; and although my own experience is far from sufficient to decide this point, I have also found it the best medicine in all the cases of the most purely local affections, or in the neuralgia; not but what it fails much too often, even in these, and particularly where they are of long standing." 452.

Dr. M. objects to the form in common use, Fowler's solution, and assures us that the common white arsenic, in powder, has succeeded, when the solution has failed. The sixteenth part of a grain is that which Dr. M. has employed, repeated three or four times a day, rubbed down with lump sugar.

"With respect to the superiority of arsenic in substance to its neutral salt, I may quote the experience of a friend, who, residing in a district where tic douloureux is extremely common, and where the solution seldom succeeded, now reports to me that he finds the powder almost infallible; giving it without the least inconvenience to the extent of 1-12th of a grain for a dose, and finding that its utmost limit is 1-8th, which can seldom however be endured, though having administered 1-6th without further evil consequences than gripings." 453.

This information is important, if true; but the apprehension of mistakes in the shops will prevent many from giving the common arsenic a fair trial.

"As this remedy is held to be attended with danger, and also with ultimate bad consequences, I must here bestow a few words on that subject. When given in excess, short of its properly poisonous effects, the symptoms are various, but the following have been observed; headach, sweating, tumours, nausea, vomiting, griping pains, with spasms of the lower extremities, and, sometimes, affections of the urinary passages; more frequently a red eruption on the skin, with swellings about the eyes and other parts, resembling that produced in what is called a surfeit, from eating muscles, and, in particular persons, many other substances. I must also remark, that, as in this latter case, there are individuals who thus suffer from it, even in the minutest doses, and that the eruption of the skin appears to be one of the most common effects, generally however limited to the face and the breast. That effect, together with slight nausea, are the ordinary and commonly sole ones, unless the dose be excessive." 454.

Dr. M. has never known any ulterior or permanent ill consequences arise from the use of arsenic. "They are all easily removed by brandy, as is the common surfeit, or by opium; and if not, they cease of themselves in a few hours."

In some constitutions, and after a few days' exhibition of the arsenic, the pulse becomes quickened, and the skin hot and dry; while there is that peculiar feeling of languor and debility that is known to result from mercury. Flatulence and sense of distention very often attend this condition. In such cases it is prudent to desist, though our author has not seen any bad consequences result further than the above. He does not believe that paralysis has ever been produced by this medicine.

On the cold bath, mercury, and purgatives, Dr. M. makes some cursory remarks, which we pass over. They are, generally speaking, condemnatory—excepting when the above means are used with great caution. Against purgation in particular, Dr. M. entertains considerable aversion.

"But in the chronic varieties, and in these, in proportion to their duration and the debility of the patient, while it is not less indispensable to maintain the bowels in a natural state, actual purging is almost invariably pernicious, unless applied to for accidental and specific purposes, of which every physician can judge. The common, the very common effect of it, is to cause relapses or returns of a disorder that has ceased, and thus to render chronic a case that might have terminated; and when what are called courses of purging medicines have been resorted to, whether from any theory of their utility, or from a mistaken view of the symptoms and their cause, it is not unusual to see produced, the most inveterate cases of chronic intermittent, and very generally also to find them under some anomalous form that might never else have occurred." 460.

Of the truth of these observations we have seen some very curious and melancholy illustrations during the last eighteen months, a period remarkable for the prevalence of intermittent diseases under various forms. The same observations, Dr. M. adds, apply to all the cases of neuralgia under its endless modifications. Speaking of the pernicious effects of active purgation now employed in all disorders, chronic as well as acute, Dr. M. makes the following sarcastic reflection.

"If the united ignorance and presumption of self-empirics could ever find an excuse, they might indeed claim it in this case; when they see practitioners of high fame, if notoriety be fame, following similar universal systems of cure, applying salts, or 'the blue pill' to every disorder or symptom in the nosology, without inquiry; and thus, while saving themselves all the trouble of thinking, rendering physic an art which may be practised by any one, without previous study or present observation; since the Alkahest does all.

"If it is strong language, it is scarcely exaggerated to say, that this universal tampering with salts and calomel is one of the greatest misfortunes which fashion and folly united ever entailed on Engand; while it is even matter for satirists, to find that a course of the waters of Cheltenham or Leamington, at once powerful and precarious, a system of active practice which can never be neutral, and which if not useful must be pernicious, is held a fashionable necessity, a mode of passing time, equivalent to any other expensive system of idleness on which society has stamped a certain reputation. But this is a small portion indeed of the evil, when we review the whole of this most extraordinary fashion, in a manner however in which I cannot undertake to examine it here. Whether the old Roman practice of emetics was more or less pernicious than that of the dinner-pills or the morning salts, it is not here my business to inquire; but he is widely mistaken who imagines that the injury produced by frequent or habitual gluttony is to be repaired by the further injury resulting from frequent or habitual purgatives." 464.

Speaking of *physic*—(whether as a *drug*, a science, or a trade, we are not quite certain) —Dr. M. unequivocally accuses it of being the principal *cause* of our diseases!!

"Let any family or any individual thus educated on purgatives, (provided indeed that the health is not utterly ruined,) take but courage enough to destroy the medicine-chest and *lock the door against the physician*, and they will soon find which was the cause and which the consequence." 464.

Dr. M. however, admits that there are some other causes of diseases besides physic—for example, malaria, idleness, luxury, peculiar modes of life.

"I must also (says he) notice, as perhaps the greatest and most general cause of nervous affections, particularly in men, *a state of things which seems to have been very much overlooked by those physicians who have speculated on this subject*. I allude to the great increase of mental employment, or of study and business or occupation, requiring mental rather than bodily exertion, connected also with that which frequently becomes a species of disease in itself, EDUCATION, or study and talents, and the latter habitually exerted—added also to confinement and all its collateral evils, and further, too often accompanied by that anxiety, with its occasional attendants or sequels, disappointment, which is the produce of the especial ambition, either as to wealth, or honours, or fame, which denotes the present times." 467.

Still, all these are inadequate, Dr. M. thinks, to the production of that wide prevalence of dyspepsia which characterizes the present race of English. Purgation, he conceives is the other grand item in the etiology of bilious, nervous, and dyspeptic disorders.

From what has preceded, we need hardly remark that Dr. M. is a decided enemy to venesection in intermittents, except under the most rigid restrictions. In the hot fit it is rarely necessary—in the intermission it is dangerous—and, we should imagine that Dr. Mackintosh's practice of bleeding in the *cold stage* must have given our worthy author an ague, considering how very susceptible he is to every morbific impression!

On the other hand, as might be expected, Dr. M. is a steady advocate for good wine and good living generally, in the class of diseases now under review. The partiality, indeed, with which Dr. M. seems to view good cheer, would induce us to believe that he has been so fortunate as to partake of the pleasures of the table, in those situations where the "feast of reason and the flow of soul" add not a little to the enjoyment of the "good creatures" of this world. We are by no means inclined to criticise his dietetics, however, where chronic intermittent diseases are to be managed. Depletion and starvation, in such cases, would be highly deleterious. On what principle, indeed, could we prescribe bark and arsenic, in conjunction with drastic purgatives, venesection, and low diet? The disease is one of debility and irritability—and in these cases, tonics, stimulants, and generous food and drink are called for.

The last subject which we shall notice is "change of air," the efficacy of which is undoubted in most chronic diseases particularly. It is not merely the removal from a bad air to a good one that is productive of so much benefit. The operation, in this case, seems to be that of breaking the habit of the disease—as a chronic intermittent appears very often to be a mere habit.

"If this be the case, a difference in the quality of the air breathed, which is what the popular phrase would signify, is not in itself the remedy; though respecting this we really are not in a capacity to argue at present, since it is most certain that the atmosphere, in different states or places, produces effects on the body, of which our present chemistry does not enable us to investigate the causes. The lungs, or the organs here concerned, to whatever extent, are in reality chemical agents superior in discernment or power to those of our laboratories; or the involuntary and unconscious animal is that chemist which the reasoning one is not; carrying on operations which he can neither imitate nor discover, and detecting substances what he cannot find." 492.

Here we must conclude this article—an article which embraces half a volume, and on which we have expended more labour than our readers, or perhaps the author will give us credit for. Nothing but a strong conviction that the work before us contains a multitude of valuable gems, which readers in general will not take the trouble to pick out, could have induced us to bestow so much labour on a review, at this season of the year, (June 1828,) when the town is so full of men and malaria, that our literary labours only *commence* when "church-yard yawn," and all our other brethren (accoucheurs excepted) are fast asleep! In rendering Dr. Macculloch's work more accessible to the profession, by diffusing it in a portable and perusable shape, we are conscious that we are doing the state some service—and the author no injury. We have several other articles from the same work in reserve.

From the Medico-Chirurgical Review.

MEMOIR ON VISCERAL NEURALGIA.

By P. Jolly, M. D.

PART FIRST.

Much has been written on that class of painful maladies, the neuralgiæ of the nerves of relation—and, under the class *neuroses*, many diseases, or rather symptoms, connected with or dependent on visceral neuralgia, have been accurately described, as for example, angina pectoris, spasmodic asthma, hooping-cough, &c. Few or no investigations, however, have been made into the state of the visceral nerves themselves, on which the disorders of function in these viscera, so often depend. The general sentiment, indeed, appears to be that, in the *neuroses*, there is a total absence of appreciable change of structure, or, in other words, of physical lesion, in the parts affected. Our author thinks, on the contrary, that there are very few of the neuroses, whether external or internal, in which some lesion might not be detected either in one of the principal nerves, their divisions, their anastomoses, or in one of the great nervous centres. The researches of Bichat, Beclard, Swan, and others, on the local affections of nerves, justifies him in this opinion, as far as the nerves of relation are concerned. These researches have reduced the number of vague terms in medicine, and augmented the number of those which have some anatomical and physiological meaning. But we have not been so successful in our researches respecting the visceral or ganglionic nerves. All there is darkness; and we have hardly ventured to apply the term *neuralgia*—probably because the idea of great pain is associated with the word; whereas, the splanchnic nerves, having specific kinds of sensibility, may suffer severely in their own way, and greatly disorder the functions of the organs on which they are distributed, without any sensible pain, in the common acceptation of the word.

M. Jolly employs the term neuralgia, then, to designate every lesion, physical or vital, direct or indirect, of a nerve, unaccompanied by external signs of inflammation—assuming, for the most part, a periodical character—and disturbing, more or less, the functions of the corresponding viscera. He reserves the term "neuroses," on the other hand, for all those nervous affections where no local cause can be traced in the nerve, but merely disorder of function in the organ. Our author properly observes that, between the cerebro-spinal nerves (the nerves of relation with the outward world) and the ganglionic nerves arising from the solar plexus, there is an intermediate class (the phrenic and eighth pair) which partake of the characters and functions of both the others—and whose disorders are modified accordingly. It is with this class of nerves that our author commences his history of the neuralgiæ of the nutritive life—or the function of digestion and assimilation.

PHRENIC NEURALGIÆ.

Clinical Characters.—The phrenic neuralgiæ, like most nervous disorders, are generally intermittent. They manifest themselves by more or less of pain, accompanied by a sense of constriction about the epigastrium or in the back—by hiccup, often attended with eructations, vomiting, and other symptoms denoting a spasmodic affection of the diaphragm. They may also give rise to disorder, more or less marked, of the respiratory apparatus, and thus simulate all the phenomena of asthma. They are usually unattended with pyrexia; but, in some cases, they are accompanied by all the general symptoms of intermittent fever, simple or malignant.

Examples.

Case 1. In the 5th volume of the Medical Journal of Vandermonde, M. Hazou has published a case of painful intermittent hiccup, which illustrates this subject. A lady, 30 years of age, received some melancholy news while menstruating, and by which the catamenial discharge was stopped. On this suppression, there supervened a most distressing hiccup, which lasted with great violence for 36 hours. There was then an intermission of 24 hours, when the hiccup returned with the same degree of intensity, and lasted the same number of hours. The complaint went on in this manner, the periods of attack and intermission as above, for several weeks, by which the patient was nearly brought to the grave. She was cured at last, by a course of strong purgative medicine.

Case 2. This case is published by M. Bigot, in the 92d number of the "Clinique des Hôpitaux." Madeline Rabouin, aged 24 years, had been subject to occasional attacks of hiccup for five years, which generally lasted a few hours, and then ceased. During the last six months, the hiccup has seldom appeared, but it has been superseded by attacks of aphonia so complete as to render her incapable, for the time; of uttering a single sound. M. Bigot was consulted, and found that this young woman was not regular in her catamenia, and that she complained of pain in the back part of her head. She was directed to apply 15 leeches to the anus, and to encourage the discharge. By this remedy the aphonia was removed; but it was replaced by the periodical attacks of hiccup, which were infinitely more distressing than the aphonia. A tartar-emetic plaster was applied to the epigastrium, which brought out a plentiful crop of pustules, and these were kept in a state of irritation and discharge by fresh applications of the antimonial. This put an end to the singultus for 12 days, when it returned. A second plaster completely dissipated the complaint.

Case 3. (Hospital Practice.) Miss Mason, aged 27 years, of delicate constitution, and of great susceptibility of nerve, had been subject to indigestion since the age of 20, but was regular in her menstrual evacuations. Seven months prior to the date of report, she was, without any apparent cause, seized with a rigour, which lasted several hours, accompanied by loud and quickly repeated discharges of flatus from the stomach. These eructations continued, with more or less intensity from that period, the patient being seldom more than an hour without them. In this state she presented herself to M. Dupuytren, at the Hôtel Dieu, under a severe paroxysm, the head being bent forward on the chest, while the sterno-cleido, pectoral, and several other muscles, as well as the diaphragm, were constantly agitated by convulsive movements. The eructations were unattended with pain; but when the paroxysms lasted any considerable time, she appeared to be threatened with suffocation. She was greatly emaciated, but preserved her appetite, and had some sleep at night. M. Dupuytren resorted at once to a powerful remedy—the actual cautery. Two irons, of two inches in diameter, and of a white heat, were held successively, close to the pit of the stomach, till the integuments became of a deep red colour. The cries of the patient, who was firmly held by assistants, were dreadful, and she sunk, at last, into a kind of stupor, and all spasmodic action ceased. On recovering, she was conveyed home, and, in the evening, she was at her usual occupations, and in good spirits. For some days after this, she had but very slight attacks, and when the report closed she was nearly well.

Case 4. (Hôtel Dieu.—M. Dupuytren.) This was a female also, of irregular menstruation, who had been harassed for two years with a most distressing singultus, accompanied by spasmodic action of the pectoral and cervical muscles. M. Dupuytren employed the actual cautery in the same manner as in the preceding case. The skin was disorganized, but the singultus was stopped as by a charm. Fifteen days afterwards she returned to the hospital, and reported that the hiccup was now so mild that it caused her very little inconvenience.

Several authors have related cases of intermittent hiccup, accompanied with pain, more or less acute, in those organs, under the influence of the phrenic nerve, and which only gave way to large doses of cinchona. These phrenic neuralgiæ, like all others of that class, may be accompanied by fever—and are then, in fact, intermittents. We have little doubt that they arise from the same causes that produce agues.

Anatomical Characters.—These are very little known, as the subject has not been prosecuted to any extent. Our author has little doubt that a physical change in the nerve or its neurilema, (probably of an inflammatory character) takes place. We find an instance recorded by the elder Berard, in the case of an individual who had presented all the symptoms of asthma. On dissection, no other physical change could be discovered than a small tubercle, the size of a pea, of a black colour, and extremely hard, which had completely interrupted the phrenic nerve on one side. It is certain, however, that neuralgia exists entirely independent of local lesion, and which appears to result from, and to be kept up by a vicious habit of the vital powers or properties of the nerve itself. Such would appear to be the case in the two instances related by M. Bigot, from the hospital practice of Dupuytren, and which would, probably, have given way to bark or arsenic, as well as to the actual cautery. Still it must be confessed, that the nerves have been but little examined in the neuroses and neuralgiæ, and it is, therefore, to be hoped, that future researches into the intimate texture of parts, will detect many lesions now unknown. Till then we must trust to external symptoms.

PNEUMO-GASTRIC NEURALGIÆ.

Clinical Characters.—These neuralgiæ are infinitely more common than is suspected. It is to these, in fact, that we are to attribute the greater number of periodical or spasmodic asthmas, dyspnœas, periodical coughs, hooping coughs, and what have been called "nervous vomitings," by different writers. It is in this class we must place the "tussis suffocativus," quotidian, tertian, &c. of Galleazzi, Ridley, Home, Stork, and others. In this class must be located the periodical vomitings with epigastric pain, cited by Heister, and many other authors.

Those hemicraniæ that are distressing and obstinate are probably referrible to this class of neuralgiæ, although *sympathetic* in respect to the immediate nervous seat of the pain. We shall select and condense a few cases illustrative of this class of visceral neuralgiæ.

Case 5. (M. Dumeril—Maison Royale.) A female cook, aged about 30 years, had been subject, for several years, to hemicraniæ, which attacked her many times in the month. They were ushered in by chilliness, succeeded by reaction, agitation, sense of strangulation, and, lastly, by sickness and vomiting. She was cured by anodynes and evacuants, followed by tonics.

Case 6.—(*Same Establishment.*) A female, aged 39 years, had been harassed for some time with paroxysms of cough resembling hooping-cough. It generally came on every evening, especially after eating. To the paroxysms of coughing was added vomiting, with dreadful straining and convulsive agitations. She had been treated by leechings, purgings, diluents, and other means, when having entered the Maison Royale, M. Dumeril wisely considered the case as one of nervous periodical affection, and soon cured her by anodynes and tonics.

Case 7. In a former number of the Bibliotheque Medicale, M. Jolly had published a case which showed the difficulty of diagnosis, while it tends to corroborate the opinion of M. Fodera, that asthma is often dependent on a certain morbid condition of the brain and nerves. An individual had experienced, during, several years, a train of anomalous symptoms in the vascular and respiratory aparatus, which led his physicians to suspect serious organic disease of the chest. On the least exertion of body or emotion of mind, he was threatened with suffocation, had violent palpitation of the heart, irregularity of the pulse, indigestion, apparent enlargement and pain in the liver. Bleeding and starvation did not mitigate the disease, while it seemed to accelerate general dropsy, of which he died. The most accurate examination after death, did not detect any deviation from healthy structure in the chest; and the only morbid anatomy that was found, consisted in a softening and vascularity about the corpora olivaria, near the origin of the par vagum.

Anatomical Characters.—These, like the other neuralgiæ, may leave no cognizable trace of their existence in the nerves affected. This, indeed, is the case ninety-nine times in the hundred. Pathological anatomy, however, is not without examples of physical changes in the pneumo-gastric nerves, corresponding with the symptoms during life. Thus Autenrieth found the par vagum and phrenic inflamed in individuals who had died of spasmodic cough, resisting every kind of treatment. M. Breschet discovered the pneumo-gastric nerves of a yellow colour in people who had died of hooping-cough. Andral has related a remarkable case of asthma where the par vagum was altered in structure. Gendrin, Cruvelhier, and others, have also reported analogous cases.

It is to be remembered, however, that physical lesions in the nerves are rare when compared with disordered function, and this will apply to all other textures of the body as well as to the nerves. We are bound, therefore, to conclude that the physical change is one that takes place as a consequence, in general, of the functional disorder, though that consequence must, in its turn, prove a cause or an exasperation of the disorder.

But what we would wish particularly to impress on the minds of our younger brethren is the utility of attending to these visceral neuralgiæ, and especially to the periodical forms which they assume, leading us to trace them to the same general causes which produce the tribe of agues and remittent complaints—namely, miasmal emanations from the earth. It is on this supposition, that we can comprehend the alleviation which a trifling change of place and air will frequently produce in this class of complaints, while it explains the reason why some people cannot maintain a day's good health in certain localities. An attention to the medical topography of the place may often lead to a knowledge of the cause—and a knowledge of the cause is the surest key not only to prevention but to cure.

PART SECOND.

In his second paper M. Jolly pursues the investigation of a very difficult, but a very important subject. Our author quotes a passage from Bichat, which shows that that illustrious pathologist did not overlook this important class of human afflictions.

"There are," says Bichat, "colics essentially nervous, and which are totally independent of any local affection of the serous, mucous, or muscular coats of the intestines. These colics have their seat evidently in the nerves emanating from the semilunar ganglia, and spread along the whole arterial system of the abdomen. "*They are veritable neuralgiæ of the nervous system of the organic life*, although these neuralgiæ have nothing in common with tic douloureux, &c."

In this expression Bichat seems to have forgotten that the visceral nerves do not feel in the same manner as the cerebro-spinal nerves, and this difference of sensibility is quite sufficient to account for the greater quantity of pain that attends tic douloureux when affecting the former class of nerves. The affection seems really to be of the same nature in both cases, and only modified by the characters of the two classes of nerves. But, as we shall give a greater extension to this subject, when reviewing that part of Dr. Macculloch's work that treats of NEURALGIA, we shall here confine ourselves to the cases brought forward by M. Jolly. The following passage, however, is deserving of consideration, en passant.

"In the neuralgiæ of the trisplanchnic, as in those of the cerebro-spinal nerves, the *pain* is not the only sensible phenomenon. Generally there is an afflux of blood to the tract of the nerves affected, as well as to the adjacent tissues; and as these two phenomena constitute two of the essential characters of inflammation, they may help to account for that febrile reaction which takes place in so many of the intermittent neuralgiæ—and may go far to identify the neuralgiæ apyrecticæ with the neuralgiæ febriles."

Every day's experience of the last two years in this country will tend to confirm the above observation. The cause, whatever it may be, or whatever we may call it—marsh miasma, febrific miasma, dolorific miasma—produces in one individual a periodical headach—in another, an ague—in a third, a HEPATALGIA, too often mistaken for HEPATITIS—in a fourth, a GASTRALGIA, treated by leeches, bleeding, blisters, &c. as GASTRITIS. But more of this in another place.

Case 1. *Febrile Neuralgia affecting the trisplanchnic nerves under the tertian form, and cured by antiperiodics after an unsuccessful trial of the depletory means.*

Mamade D——, aged 30 years, of sanguineous temperament, experienced, after an accouchement, a series of symptoms, apparently of an inflammatory character, and affecting the stomach, liver, kidneys, and uterus. Each attack, in short, resembled gastritis, hepatitis, nephritis, hysteritis, &c. according to the organ invaded, and each attack gave way to the usual depletory and antiphlogistic measures. But the intervals of relief were short and imperfect—and a few days generally sufficed to bring the malady back in some new place. At length, after the patient was reduced to a state of great debility, it was observed that the disorder made its appearance regularly every third day, whatever was the organ selected for its seat. Having arrived at the lowest ebb of weakness, and when depletive measures could no longer be thought of, the patient continued to be harassed with most distressing pains in almost all the viscera supplied by the trisplanchnic nerves. These pains were unequivocally periodical, returning every other day at a fixed hour, generally about eleven o'clock in the forenoon, commencing with a chilliness, headach, and vertigo, then affecting successively the epigastrium, the right hypochondrium, and the right side of the hypogastrium. The pains were accompanied by violent vomiting, and by such painful distention of the abdomen, especially about the region of the liver, that she could scarcely bear the weight of the bed-clothes. This state lasted from twelve to fifteen hours, terminating in a gentle warm perspiration, and being succeeded by an interval of nearly perfect health. In these intervals, there was neither pain nor even tenderness on pressure, in any part of the abdomen—no feverishness—no redness, but a slight whiteness of the tongue. In consultation with Dr. Chabanneau, it was agreed that the disease was a periodical neuralgia of the ganglionic system, and she was directed to take sixteen grains of the sulphate of quinine, with some opium and ether in the next interval. There was no return of the paroxysms till the eleventh day, when the patient thought proper to take a cathartic medicine, which immediately produced a recurrence of the attack. The quinine again stopped them permanently.

Case 2. *Quotidian Intermittent Neuralgia of the Uterus.* By Dr. DUPARQUE.—Madame R. C. aged 28 years, tall and robust, was safely delivered in the beginning of October, 1827. She did not nurse the child, and the catamenia were re-established in six weeks, continuing regular till the month of February, 1828, when they stopped, without any ostensible cause, but again returned, eight days after the expected period, accompanied by extraordinary pains chiefly affecting the right iliac region, shooting into the pelvis, and extending towards the opposite iliac region. These pains were accompanied by a bearing down, resembling that felt in labour. They were acute, lancinating, recurring every three or four minutes, and forcing the patient to cry out from their violence. They soon induced a degree of delirium and even convulsions. These attacks came on about midday, and lasted with more or less intensity till the evening, ceasing about midnight, and then permitting the exhausted patient to get sleep. In the mornings she appeared in good health, and free from pain; but at noon, the enemy regularly made his attack, as above described. The catamenia continued to flow, and on the eighth day an accoucheur was called, under the idea that the patient was suffering from abortion. This idea, however, was given up, and it was decided that the disease was phlegmasia of the uterus. Venesection, leeches, repose, fomentations, lavements, diluents, and the usual remedies, were prescribed, but instead of relieving, they greatly aggravated the paroxysms. Dr. Duparque was called in on the 14th of March, the twenty-fifth day of the disease. The patient was now reduced to a complete state of emaciation—the appetite being nearly natural, the tongue moist and clean, the skin a little hot, the pulse quick and irregular, the abdomen soft and insensible to pressure, but this pressure excited some pain in the iliac and hypogastric regions. Nothing particular could be detected in either of these regions by manual examination. The os uteri felt rather turgid, and more open than natural, but not more so than during the catamenial period. The uterus itself did not appear to be at all enlarged. Dr. Duparque considered the disease as a regular PERIODICAL HYSTERALGIA, and promised the desponding patient a speedy cure. Eight grains of the sulphate of quinine were ordered to be taken during the next remission. The paroxysm did not return at noon, but only a few mitigated pains in the evening. There were no more attacks, but the patient continued the quinine for some days, by way of precaution.

Case 3. This case was recorded in the Journal of Vandermonde, so long ago as the year 1779, and bears upon the present investigation.

A female, aged 35 years, of melancholic temperament, was seized, after some domestic troubles, with *hysterical paroxysms*, evinced by great commotions in the bowels, globus hystericus, and a sense of insupportable anxiety. These paroxysms returned in the evening, lasted through the night, preventing sleep, and disappeared in the morning. She had been three months in this state when the narrator was consulted. The attacks, at first, were separated by intervals of a few days; but latterly they had been almost daily. She was cured, and very promptly too, by the sulphate of zinc.

Case 4. This is a case of intermittent rheumatism which happened in the person of Mr. Rumsey, a surgeon, and is recorded in the Edinburgh Medical and Surgical Journal for July, 1818.

"Fever came on in the afternoon, with a violent pain of the abdomen, a great sense of distention, and actual enlargement, with great flatulence. My own sensation was, that nothing would give relief but evacuations. An enema was given with little or no good effect, yet, in the course of a few hours I fell asleep, and awoke in the morning almost well, not expecting any renewal of disorder. But on the next evening I found myself suffering again precisely in the same manner. Obtained little or no relief from the injection, which I repeated, feeling as if nothing would relieve my pain but evacuations. Again I became well in the night, and was in the morning without fever or complaint. In the ensuing afternoon, at the usual hour, I was attacked, for the third time, with fever, my bowels were inflated, hard and full, and aching in the most distressing way. I began to suspect that the complaint was intermitting rheumatism, especially as I had many times had the most painful intermitting face-achs, which always gave way to bark. I had recourse to this remedy in substance, and, to my great satisfaction, escaped the paroxysm on the following day. My speedy recovery convinced me that the attack was intermitting rheumatism, and not inflammatory, as might, with reason have been suspected.

"I thought it a remarkable fact, not aware that rheumatism affected the muscles of the abdomen in this way, and still more remarkable, that, by their vicinity to the bowels, without any intelligible or direct communication, the viscera should be also affected, as the flatus and distention proved."

We admit that rheumatism is very frequently an intermittent disease; but we see no reason for concluding with Mr. Rumsey, that his was a case of that kind. Well might he wonder how rheumatism of the abdominal muscles should affect the abdomen with flatus and distention. The case is a very well marked one of the trisplanchnic neuralgia now under investigation. Mr. Rumsey states some particulars of another case, where a lady, after travelling in damp ground, became affected with an illness which, at first, was obscure, but afterwards assumed the type of a quotidian ague, "the paroxysms being accompanied by a distressing pain in the abdomen." This patient was quickly cured by bark. The following case shows clearly, we think, the connexion between neuralgia of the cerebro-spinal nerves, and that of the ganglionic nerves. It is also recorded by Mr. Rumsey.

Case 5. "Mrs. W——r, about 30 years old, had a sore throat, with some inconsiderable sloughs in it. After some days, without any remarkable occurrence, it got well, and, within a day or two, she was much troubled with face and toothach. The pain was very acute, intermitting and returning once in the day, by a sudden accession. The use of the bark was begun, but producing a violent sickness and fainting, was discontinued. With warmth, and the use of wine, she soon lost the pain, and, except that she was weak, had for a few days no disease. Not many days had elapsed, however, before she complained of pain in the lumbar region, leading round the abdomen, and producing actual enlargement, as well as a distressing sense of fulness and flatus. It continued two or three hours, and then left her easy. The night and following day were free from pain, until 5 o'clock in the evening, at which hour it returned severely, affecting the intestines by distention, producing restlessness, irritability, and feverish quickness of pulse. I witnessed the same daily paroxysm, followed by its interval for five or six days, with the variation of observing a later hour, and being weaker in its attack."

The following case is recorded by M. Hutin.

Case 6. A female, aged 34 years, previously in good health, was awakened in the middle of the night with violent palpitation, accompanied by severe pain in the region of the heart, so that she was threatened with instant suffocation. In this distressing condition she remained till the morning, when all the symptoms suddenly vanished. At the same hour in the succeeding night, the attack returned with equal violence—lasted till morning, and disappeared as before. The complaint now changed its form. The patient experienced, at irregular periods, violent pain in the stomach, accompanied by vomiting—or severe colicy pains in the bowels, region of the liver, or kidneys, which observed a periodical character. Repeated applications of leeches to the anus and warm baths were employed without success. Tonics and antispasmodics effected a cure.

That these visceral neuralgiæ assume the form of malignant intermittent fevers, our author is convinced, and the following case related by Torti, among others, is quoted in support of this opinion.

Case 7. A female became affected with a simple ague, accompanied by pains in the abdomen, vomiting and purging. It was in the third paroxysm when Torti was called to her, and no information was given to him respecting the periodicity of the complaint. The local symptoms were alone complained of. He found the patient cold, without pulse, the face deadly pallid, the eyes sunk, the nose pointed, the temples hollow. Torti thought her in articulo mortis; but reaction succeeded, and a remission followed. Next day the violent paroxysm of pain, sickness, and purging returned, and went through a certain period. Torti now perceived the nature of the complaint—prescribed the bark in large doses, and soon put an end to the paroxysms. We shall conclude our list of examples with the following case from M. Bailly de Blois.

Case 8. An Irish gentleman, aged 22 years, residing at Rome, was seized, in the month of August, 1822, with a paroxysm of ague, accompanied by excruciating pain in the abdomen. When Dr. Bailly arrived, he found the patient in a state of indescribable agitation. He was rolling about in his bed, pressing the abdomen with his hands, and uttering the most doleful lamentations. The tongue was rather white, without any redness at the point—no thirst—pulse full, strong, and developed. A pint of blood was taken from the arm, and 20 leeches were applied to the abdomen. In the evening, all the symptoms were dispersed, and the night was passed in tranquillity as was the following day. On the third day, however, he had a rigour in the morning, followed by fever, and the same excruciating pains in the abdomen which were described above. Twenty more leeches were applied to the abdomen, and a pound of blood abstracted from the arm. The paroxysm ceased in the evening—the night and succeeding day being free from complaint. On the fifth day, the symptoms returned with even increased violence, accompanied by great depression of spirits. The eyes of the physician now appear to have been opened. The paroxysm was allowed to proceed, and as soon as the apyrexia and cessation of pain took place, the sulphate of quinine was prescribed, and the attacks were stopped.

It is needless to accumulate more facts from various practical writers, to prove that examples of visceral neuralgia may be found in nervous colics, cholera morbus, periodical rheumatism; colica pictonum, &c. and that this disease, in its various shapes and domiciles, is still allied to, if not identified with—*intermittent fever*, not only as to cause, but as to treatment.

Anatomical Characters.—There are but few facts on record fit to demonstrate the nature of those lesions which constitute the trisplanchnic neuralgia. The difficulty of tracing the branches of these nerves, and still more of recognising their physical lesions, renders this part of the investigation almost hopeless in the present state of neurological pathology. Lobstein, who has taken pains with the anatomy of the visceral nerves, especially the trisplanchnic, found, on several occasions, unequivocal traces of inflammation in their structure, in the bodies of those who had complained of abdominal pains during life.

"On opening the body of a pregnant female, who had died of severe attacks of periodical vomiting, by which she had been harassed for some months, accompanied by severe pain along the spine, Dr. Lobstein was unable to detect any trace of inflammation in the brain, spinal marrow, or any of the thoracic, abdominal, or pelvic viscera. Having removed the organs of the abdomen, he found the semilunar ganglion of an intensely red colour, and evidently inflamed. The trisplanchnic nerve was much larger than usual throughout its whole extent."

The same accurate observer found, in a young girl of six years of age, who had been long alternately affected with obstinate cough and spasmodic vomitings, the left division of the solar plexus highly inflamed, whilst the right was perfectly healthy. But it must be confessed that we have much, or rather every thing to learn respecting the morbid anatomy of the ganglionic nerves. The facts which we have brought forward in these two papers of

M. Jolly, and the facts and reasonings which we shall shortly lay before our readers in the review of Dr. Macculloch's works, will, we hope, convince them that neuralgia is not confined to the nerves of relation, but extend also to the ganglionic system. The subject is highly deserving of attention, and its investigation will amply repay the labour expended on it. The periodical character of these visceral pains is too generally overlooked—the nature of the complaint is mistaken—the treatment is ineffectual, and not seldom injurious. Even since the commencement of this paper, we have seen several cases where patients were harassed with local and general bleeding for pains in the head, the hypochondria, and the stomach, which turned out to be *neuroses*, and not *phlogoses*, after all! We need not say that, when a practitioner is obliged to veer round from venesection to bark and arsenic, the patient naturally enough asks himself how it is that the Doctor did not give that medicine at first which cured the disease at last. These are occasions in which we cannot always veil the mistakes which we make, and, therefore, we have the more need to look sharply into the character of the maladies we are treating.

We shall wind up this memoir with one or two of the general conclusions, or rather inferences, drawn by our author, and which appear to us to be well-founded.

"1mo. That which distinguishes tho visceral from the external neuralgiæ, is the greater severity of the pain in the *latter* class, which generally comes on in the evenings; whereas the visceral neuralgiæ are worse in the morning, and become mitigated in the evening.

"2do. Both classes of these neuralgiæ have the following characters in common, namely, a *preceding* malaise, nausea, chilliness, some præcordial anxiety—an *accompanying* irritation, and afflux of blood, with or without febrile action—a termination in perspiration or sedimentous urine—and, finally, intermissions between the paroxysms. These neuralgiæ, in both classes of nerves, cede to the same therapeutical means—and generally leave no cognizable trace of their existence after death, either in the nerves themselves, or in the organs to which these nerves are distributed."—*Bib. Med. Juin*, 1828.

From the London Medical and Physical Journal.

OBSERVATIONS ON THE ANATOMY AND DISEASES OF THE KIDNEYS AND URETERS.* By J. Bouillaud, D. M. P.

Neither the structure nor pathological conditions of the kidneys have been so much attended to as other internal parts. M. Andral, to whose pathological labours we are so much indebted, has passed over this part of the subject in silence. Even Morgagni has given but an imperfect sketch of it. In some subjects but one kidney is found. M. B. has met with one instance of this kind. The kidney was situated across the spine, and was furnished with two ureters: it was considerably larger than the ordinary size.

Lobulated kidneys.—M. B. has seen this conformation in four adult bodies. The external configuration of the kidneys resembled in some degree the hemispheres of the cerebrum. The lobes and sinuosities which refracted them represented the circumvolutions and infractions of the brain. In one instance, two ureters proceeded from the right kidney, and, at the termination of about two inches, they united in one canal. The kidney was naturally formed.

Hypertrophy of the kidneys.—M. B. has frequently met with this affection, and generally in only one kidney. It is recognised by the following appearances: The kidney is a quarter, or a third, or perhaps even one-half larger than the natural size. Its substance is firmer, more compact, and redder. It is probable that in such cases the renal artery is enlarged, although this fact has not been determined. Hypertrophy of the kidney occurs under the influence of various causes, which determine to it an unusual quantity of blood. The most likely circumstance to produce this kind of plethora in one kidney is the existence of some obstruction to the passage of the blood towards the other. It happens, consequently, that hypertrophy of one kidney is frequently detected when the other is in a state of atrophy. Hypertrophy of the heart, and of the external muscles, takes place equally under the same conditions which preside over the increased size of the kidney.

Atrophy, or diminished nutrition of the kidneys.—This disease M. B. has frequently seen. Its characters are diametrically opposite to those of hypertrophy of the organ. The size of the kidneys is less than natural; their substance is paler; they contain less blood, and appear shrunk. Whatever cause obstructs the current of blood to the kidneys may produce an atrophy of them. In every such instance, M. B. has been able to demonstrate a greater or less obstruction to the free circulation of the blood. The pressure of an enlarged spleen has sometimes produced atrophy of the left kidney. The right kidney has been similarly affected by the continued, yet gradual, pressure of an enlarged liver. In other organs, as the heart, the lungs, the breast, the testicle, pressure frequently causes the same diminution of size.

Infiltration of urine, and cysts of the kidneys.—M. B. observes that no pathologist has hitherto described this affection; it is not, however, very rare, but it may easily escape the observation of a careless practitioner; the following are the characters of it: on the surface of the kidneys may be seen several round vesicles, which raise the covering membrane of these organs. These vesicles appear to be small cysts in the substance of the kidney, and are probably performed by a certain

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[*] Journal Complementaire, &c.

quantity of urine, which has distended the uriniferous tubes, in consequence of some obstruction to the passage of the fluid. M. B. has seen some of these cysts as large as a cherry. Sometimes, instead of numerous vesicles, he has detached one large sac, which he presumed to have been formed from the union of several smaller ones, of which the parietes had ruptured. He has found the whole of the kidney transformed into one large sac, containing either a transparent serous, or turbid, fluid.

Inflammation of the kidneys, and of the disorganizations which follow inflammation.—In consequence of their peculiar structure, the kidneys do not easily become the seat of those disorganizations which result from inflammation. Nephritis is marked by the following appearances: redness, tumefaction, presence of pus, softening of the structure of the organ, abscesses, ulceration of the external surface, conversion of the parenchymatous substance into a tuberculous, or encephaloid matter, which is, in a great measure, the product of the diseased secretion of the affected kidney. Cysts, either on the surface, or in the substance of the kidney, may result from inflammation. In two or three cases, M. B. has found the kidney converted into a fatty yellowish substance. The symptoms of the various ulcerations which the kidneys occasionally undergo are very obscure; this circumstance will not be considered so extraordinary when we consider, first, that the deep seated situation of the kidneys embarrasses our examinations; secondly, that derangement of the function of the kidneys produces similar symptoms to those which result from various affections of the bladder and ureters; thirdly, that pain is by no means a constant attendant upon renal disease. If we are to rely upon the statement of most pathologists, acute pain is the almost inseparable attendant upon inflammation of the kidneys; it is not denied that such is frequently the case, but M. B. affirms that he has observed the most decided marks of renal inflammation in the bodies of patients, who have never complained of pain in the region of the kidneys. This absence of pain may be more easily conceived, when we reflect that the kidneys in a natural state are but slightly sensible. Violent pain is not seldom complained of in the region of the kidneys, when no disease of them is to be detected. The presence of a certain quantity of blood or pus in the urine, when there exists no disease of the bladder, is a symptom of some affection of the kidney; when to this symptom is united a smart attack of fever, the existence of nephritis may be strongly presumed. At the commencement of the disease, if both kidneys are affected, an almost total suppression of urine takes place. Chronic nephritis, like most other internal inflammations of a chronic character, produces a slow fever, which destroys the patient by throwing him into that state termed renal consumption. When the affected kidney continues the performance of its functions, the urine is much altered in its appearance, but sometimes it ceases to secrete; the urine being formed only by the healthy kidney, presents no unusual appearance, and the diagnosis of the disease is then extremely difficult. If both kidneys are simultaneously disorganized, so that a total cessation of the secretion of urine takes place, the same phenomena will occur as we observe in animals, in which both ureters are tied, or both kidneys removed, violent fevers quickly arise, and a strong smell of urine is exhaled from the body. Is hypertrophy of the kidneys ever the cause of diabetes? M. B. is not furnished with sufficient facts to justify him in giving a positive answer to this question, but he has observed hypertrophy of the kidneys where the patient had been affected with diabetes. The ureters, like all other parts of the body, may suffer from inflammation, and undergo various alterations of structure in consequence; their canals may be much enlarged, diminished, or entirely obliterated; dilatation of the ureter may arise from any cause which obstructs the free passage of the urine into the bladder; contraction or obliteration may follow from any accidental compression, from inflammation of the internal membrane which lines the cavity, or from the cessation of the passage of the urine through the canal, from the function of the kidney being no longer performed in consequence of disease. The symptoms of affections of the ureters are as obscure as those which attend diseases of the kidneys. If both canals are obliterated at the same time, death would speedily result; but if one ureter only is obstructed, the caliber of the other will be increased considerably, from the additional duty which it will have to perform under such circumstances. In support of these observations, M. Bouillaud details several interesting cases.

From the Medico-Chirurgical Review.

RESEARCHES INTO THE CAUSES, NATURE, AND TREATMENT OF THE DISEASES OF INDIA, AND OF WARM CLIMATES GENERALLY. By JAMES ANNESLEY, Esq. &c.

[ART. II.—ACUTE HEPATITIS.]

In a former article,* we presented our readers with an analysis of the first half of Mr. Annesley's first volume on Indian diseases. We now resume our labours—we may well say *labours;* for it has never been out lot to see valuable matter so diluted, and, comparatively speaking, *lost*, in a deluge of superfluous verbiage, as in these volumes. We understand that the East India Company make the purchase of this work nearly imperative on their medical officers. If so, Mr. Annesley has imposed a *heavy* tax on his oriental brethren. We do not allude to the *fourteen guineas*—

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* Vide Journal of Foreign Medicine, p. 66.

though that is something to an assistant surgeon on first setting out—but, to the expense and inconvenience of employing a buffalo for the transportation of these volumes from station to station in the East Indies. That "*a great book is a great evil,*" will be amply verified in this instance—and many a time will "*mega biblion!*" be heard, in uncouth dialects, "o'er lofty Ghaut, through lonely glen," as aspirated by the panting Coolie, while groaning beneath the weight of a—"*gray goose quill!*" Well might Mirabeau exclaim in the National Convention, "*words are things.*" They are indeed—and very *heavy* things sometimes! Had Mr. Annesley been acquainted with the discovery of our friend Lacon, and applied the *verbifuge* to his proof-sheets, he would have *lightened* the labours of many a personage, besides the buffalo and Coolie! But it is now too late, and we can only endeavour to diffuse the materials of these costly and highly valuable volumes in a more *portable* form than the author has thought proper to adopt.

Hepatitis is a word which almost universally, in this country, calls up the idea of a hot climate, and especially the climate of India. There is hardly any acute inflammation less common in Europe than that of the liver—none so frequent as this phlogosis in our Asiatic dependencies. The reasons why hepatitis should prevail more generally in India than England have been discussed, but not finally adjusted. Some place the etiology of the disease to the account of atmospheric heat—some to a specific miasm, peculiar to India—and others to the luxurious living of Anglo-East Indians. It is probable that the same miasm which produces jungle, marsh, and the whole tribe of remittent and intermittent fevers, gives origin also, in many instances, to dysentery, cholera, and hepatitis.

Mr. Annesley observes that—"inflammation of the liver generally *supervenes*, either as a *primary* disease, without any very apparent state of previous disorder, or as a consequence of one or more of the functional derangements, &c." We notice this opening sentence of the section to show how fond the author is of words, and how little he cares about their meaning. How can hepatitis *supervene* as a *primary* disease? If it *supervenes* at all, it must supervene on some other disorder. Even the latter part of the sentence is clumsy, if not incorrect. If inflammation of the liver is a mere *consequence* of functional disorder, the word supervene is still an inappropriate one. We seldom indulge in verbal criticisms; but the work under review certainly requires much *verbal* expurgation. The right lobe of the liver is more frequently inflamed than any other part—the left lobe less frequently. The parenchymatous structure in Mr. A.'s experience, is much oftener the seat of phlogosis than the coverings of the liver. Frequently, indeed, we find the substance of the liver destroyed by inflammation or abscess, without any appearance of phlogosis on the surface.

"Inflammation of the substance of the liver seldom commences with a well-marked rigour or chill, unless after exposure to a powerful exciting cause operating upon the system from without, as cold or wet, currents of air, night dew, or malaria. When chills or rigours mark commencing inflammation of the internal structure of the organ, there are generally one or more of the symptoms we have enumerated as characterizing congestion also present. Indeed, a congested state of the organ about to be diseased always accompanies that particular condition of system which gives rise to rigours, if it does not actually cause this particular phenomenon; and it generally accompanies inflammation of the substance of the organ, to a greater or less extent, throughout its progress. The patient usually complains, about this time, of oppression, weight, and uneasiness about the pit of the stomach and right hypochondrium, extending sometimes under the ensiform cartilage, and in the direction of the diaphragm and mediastinum to the back and shoulder blades. These symptoms are usually increased upon a full inspiration, taken at the time when pressure is made beneath the ribs, or when pressure upon the stomach and back is made at the same time. The pulse is, at this very early period of the disorder, scarcely affected; but it soon becomes accelerated towards night; it is often slower and more oppressed than usual, and occasionally irregular or remittent. The countenance is now usually pale, sallow, or somewhat anxious; the spirits considerably depressed; the tongue yellowish, white, and more or less foul, and the patient complains of loss of appetite and of sickness, with an unpleasant taste in his mouth. The bowels are often irregular, but at first generally costive, and the urine is in small quantity, loaded, and high coloured. There is sometimes headach, and generally a disturbed sleep, and often slight dyspnœa and sighing, with a slight oppression at the chest and epigastrium.

"As the disease of the internal structure of the liver advances, the pulse becomes quicker, fuller, and more irritable in its beat during the evening and night, and it is often oppressed and embarrassed during the morning and day, and sometimes throughout, unless copious depletions have been practised early in the disorder; the sense of uneasiness in the region of the liver and epigastrium is often augmented; and if vascular fullness of the organ be great, and particularly when the inflammation results from congestion, the patient complains of a heavy, dragging pain, increased on sudden motion, or by turning suddenly in bed. There is often a short, suppressed cough, dyspnœa, with shortness of breathing, a catch in the respiration, particularly after quick motion. Upon examination, in these cases, tumidity of the viscus may be often ascertained from its protrusion beneath the ribs and scrobiculus cordis. The easiest position is usually upon the back, or sitting gently bent forward. All these symptoms are generally increased upon taking matters into the stomach; and the pulse is now much accelerated, especially towards evening. Difficulty of lying upon the right side is not frequently present, and pain in turning to the left side is not often felt, unless the change of position be made suddenly. The tongue at this stage of the disease is generally coated, and of a yellowish or brown colour; it is frequently also dry, particularly at its middle. The pain sometimes complained of at the top of the right shoulder, and so improperly stated as being one of the chief signs of hepatitis, is, when present, certainly characteristic of the disease in the right lobe; but, unfortunately, this symptom is only occasionally present; and the inexperienced practitioner, who has been taught to look to this as a distinctive mark of the disease, infers, when it is not observed, that the liver is sound. With respect to the pain actually accompanying inflammations of this organ, we may state that it is often felt in the region of the liver, in the lower part of the thorax, and in the epigastric region: it is sometimes referrible to the top of the right shoulder, frequently to the right shoulder-blade, and occasionally to both scapulæ: it is, on some occasions, seated in the back, between the lower angles of the scapulæ, and, in some instances, the only pain which has been complained of has been in the loins. We have observed it, in a few cases, in the right clavicle and its vicinity; and in others, in the left shoulder and shoulder-blade only. In many cases, pain is increased in the situation of the disease, or its vicinity, upon quick motion, upon making a false step, or upon turning suddenly from one side to the other; and, in a few obscure cases, pain is complained of only on such occasions. When the internal structure of the organ is affected, the pain in the hypochondriac and epigastric regions is seldom acute; there is most frequently a sense of aching or dragging, with oppression at the præcordia. Pain is seldom acute, tensive, or pungent, unless the surfaces or ligaments become affected. There is usually great anxiety at the epigastrium and præcordia, accompanied with frequent sighing, particularly when pressure is made simultaneous on the right hypochondrium and under the right shoulder-blade. We have seen a few cases where pain followed the course of the muscles of the right side of the neck: it often extends from under the ensiform cartilage, in the direction of the mediastinum, to between the shoulder-blades; and when this is observed, oppression, dyspnœa, or a sudden catch in breathing, and a dry cough, generally accompany it. Pain frequently, also, extends from the right side, under the shoulder-blade, to the spine, where it terminates. On many occasions, when great congestion of the vessels of the liver seems to accompany inflammation of its substance—states of the organ which, as we have already said, are frequently co-existent—the right lobe becomes very much enlarged, and rises up into the right cavity of the thorax, occasioning great oppression at the chest, fulness at the epigastric region, dyspnœa, frequently dry cough, and sometimes acute pain, owing to the great distention of the covering of the liver at this part, with an increased discharge of mucus from the bronchi. In such cases, the exacerbation of pain in the chest, upon a full respiration or on coughing, the flushed or tumid state of the countenance, occasioned by the interrupted circulation through the lungs and the seat of the complaint, are apt to make the inexperienced practitioner mistake the disease for pneumonia. In cases of this description there is generally more or less pain or uneasiness felt about the shoulder-blades, or top of the right shoulder, or between the scapulæ; and often numbness of the right arm, with pain about the insertion of the deltoid muscle, or at the wrist, is complained of; rarely, a slight numbness or pain is also felt down the right hip." 419.

Nausea and vomiting are often concomitants of the more acute attacks, and generally indicate that the inflammation is seated near, or is extending to the stomach, or in the direction of the ducts. This more usually happens when the inflammation results from accumulations of vitiated bile.

"In such cases the patient complains of sense of fluttering, weight, and fulness, at the right hypochondriac and epigastric regions,—sometimes of pain in the abdomen,—and he reclines chiefly on the left side; the stools are generally watery, frequent, scanty, and very dark coloured, with tenesmus and many of the symptoms of dysentery, for which disease it is often mistaken. Even when but little sickness at stomach is present, there is always loss of appetite in the more acute forms of the disease, heartburn or gripes about an hour or two after a meal, and considerable thirst; with low spirits; and the patient often reclines upon the back or left side, in preference to any other position." 419.

As the inflammation advances, the fever, and especially the evening exacerbation, becomes more marked—the tongue is generally covered with a white or yellowish brown fur—moist in the beginning, but dry in the advanced stages. In cases where the hepatitis has supervened on previous disorder of the alimentary canal, or after repeated attacks of hepatic disorder, "the tongue seems often smooth and glossy, marked by fissures, and lobulated." These are bad signs. The bowels are generally much disordered—the motions being vitiated, scanty, slimy, watery, or of a dirty brown colour. The thirst is urgent, and the nights are restless.

"The state of the countenance and skin deserve attention during the progress of disorder. At its invasion, particularly when attended with chills or rigours, the countenance is pale or sallow, and the skin shrunk and pale on the extremities, but often natural in the trunk. As the inflammatory action becomes developed, the countenance fills out more fully; and when there is great fulness and oppression in the region of the liver and chest, the face often becomes fuller than natural, with some degree of dusky redness in the cheeks. The countenance and eyes, however, still possess a murky, or muddy, or sallow hue, and more or less of a dark circle surrounds the eye, particularly beneath it. The tunica albuginea is either of a yellow tint, or of a dull white or pearly hue. The patient often complains of pain in the forehead and over the eyes. The skin on the trunk, especially towards evening, is generally warmer than natural, and is sometimes attended with a greasy feel, and a scanty or partial perspiration. When perspiration is copious, it is frequently very offensive. A certain degree of jaundice is often remarked in the hepatitis of Europe, especially when it terminates in abscess; but jaundice is not a frequent concomitant of hepatitis in India, unless when the ducts or gall-bladder become involved in the disease, or when it supervenes to biliary calculi and obstruction of the ducts. The countenance and eye are, however, always deficient of clearness, and possess a sickly expression." 421.

The urine is high-coloured, scanty, loaded, and produces a sense of scalding when passed. A dysenteric state of the bowels is a common concomitant—and healthy bile is hardly ever found in the stools. Mr. A. observes, what no practical man will doubt, that there is no *one* symptom or phenomenon on which we can depend, as pathognomonic of active inflammation in the liver—and he might have added, of inflammation in any other internal structure.

When the surface of the liver becomes inflamed, whether primarily or secondarily, the symptoms assume a more acute and definite character.

"Febrile signs are more prominent, and often supervene to slight rigours and chills; the pulse is generally much accelerated, and hard; the pain in the right hypochondrium is more or less acute; and when the upper surface of the right lobe is affected, or when great tumefaction of this part is present, so that it rises up into the chest, considerable pain and tension are also felt in the right thorax and under the ensiform cartilage and sternum, so as to resemble an attack of pleuritis. There is also cough, much increase of pain, or a catch, upon a full inspiration, or upon pressure, especially when made at the time of a full inspiration. When the whole of the upper surface of the organ is the seat of inflammatory action, the attack may be mistaken for pneumonia. The oppression, difficulty of breathing, pain in the course of the diaphragm and under the sternum, being generally considerable." 424.

The heat and dryness of skin and tongue are also greater in the membranous than in the parenchymatous inflammation. The secretions from the bowels are very variable in this form—generally they are diminished in quantity, and sometimes deficient of bile. Diaphragmitis is not unfrequently superinduced, in this form of hepatitis, from extension of the inflammation—and the lungs also are not uncommonly inflamed, attended with great tension in the hypochondria and inconvenience in breathing. The cough is hard, frequent, and suppressed as much as possible by the patient. When the outer surface of the right lobe is inflamed, the patient lies best on that side, and has pain extending round to the right scapula—sometimes to the shoulder. On the other hand, when the concave surface of the organ is the seat of inflammation, the functions of the stomach are prominently disturbed.

"Nausea and vomiting are often present, particularly a few minutes after substances are taken into the stomach. The thirst, anxiety, and pain at the epigastric region, are urgent, and there is usually much pain in the back, and sometimes in the right shoulder and muscles of the right side of the neck. The pulse is variable, but generally irritable, quick, small, contracted, or hard. There is often felt a sense of fluttering at the scrobiculus cordis, with a heavy dragging pain in the same situation; anxiety and frequent sighing; and sometimes, in the advanced state of the disease, hiccup is present, especially after cold fluids are taken into the stomach. The patient generally reclines upon the left side, or leans gently forwards. All these symptoms become more urgent if the inflammatory action have extended to the gall-bladder, to the ducts, or to the stomach itself. When such is the case, there is generally a sense of burning felt at the epigastrium, with fulness, frequent and painful eructations of flatus, very quick pulse, with cold, clammy hands, and increased heat of the trunk. The vomiting is frequent and painful, the urine in small quantity, and the stools watery, scanty, and often morbid and offensive. When the ducts and gall-bladder are affected, the pain is felt darting to the right side and back, and from under the ensiform cartilage, in the course of the mediastinum, to the spine; sometimes it extends from the epigastrium to the umbilicus, and back to the right hypochondrium. Singultus and acrid eructations not infrequently also supervene as the disease advances, particularly after substances are taken into the stomach. The patient can seldom bear pressure on the right side and epigastric region, and feels increased uneasiness upon a full inspiration. Increase of uneasiness merely cannot, however, be considered as a distinctive sign of the seat of the inflammation, as this function is more or less affected, particularly on attempts to fill the lungs, in all the stages and forms of the disease: the degree, however, to which the breathing is affected, and the seat of pain or uneasiness, upon taking a full inspiration, is often a guide to the actual state of disorder. A similar remark may be applied to the pain and uneasiness frequently felt upon making a forced expiration: for this means of ascertaining the seat of pain ought always to be practised, whenever the exact nature of the case is in any way doubtful. There are also observed great restlessness and want of sleep, a foul state of the tongue, with large, foul, and brown papillæ. If the tongue become clean from the treatment, the papillæ generally remain long excited or prominent." 427.

It is but seldom that the left lobe of the liver is alone inflamed—and indeed it may be said that membranous inflammation is seldom unaccompanied by an extension of the phlogosis, more or less, into the substance of the organ. The symptoms will then, of course, partake of the characters peculiar to both forms.

PATHOLOGICAL APPEARANCES.

Excepting where people die of other diseases, as fever or dysentery, it is seldom that the pathologist has an opportunity of observing the appearances presented by the early stages of hepatitis. When such opportunities do occur, he often finds some part of the surface or interior of the organ evincing the usual signs of phlogosis—vascularity, redness, gelatinous coatings on the *surface*—increased vascularity, redness, and friability or softness in the recently inflamed *parenchyma.*

"In some instances, the surface of the inflamed organ is variously shaded. Sometimes, it is marked with red, brown, brick-coloured, greenish-brown, and even with almost black spots and streaks, while the internal structure is inflamed, congested with blood, much tumefied, and softer than natural. Upon making a section of the viscus with a very sharp scalpel, and after wiping with a sponge the cut surfaces, they present a lighter-coloured reticulum, or mesh, studded with red or brick-red granulæ, and the divided ends of blood vessels and biliary ducts. Upon being torn asunder—which is generally done with more facility in the acutely inflamed state, although sometimes with more difficulty in the chronic conditions of disease--the torn surfaces exude a greater quantity of fluid blood, but still retain their minutely granulated structure, and present both a brighter and a deeper colour than in their healthy state. When abscess forms in the substance of the organ, then the appearances become very materially and very variously altered." 434.

Gangrene has been remarked by many writers and teachers—but our author, whose opportunities have not been exceeded by any other practitioner, never saw a case of the kind. It is probable that the black congested and softened state above described, has been mistaken for gangrene. The inflammation and its consequences frequently spread, of course, to the neighbouring parts, and the stomach, duodenum, colon, lungs, and even the kidneys, are often involved in the destructive process. Sometimes the liver is found tumid and congested—the ducts either with inspissated bile, or reduced to an impervious cord. This constriction of the duct appears, in some cases, at least, to be the result of spasm—in others, of organic change from preceding inflammation. Our author very properly enjoins a careful manual and occular examination of the region of the liver in all cases.

"Manual examination should, therefore, be resorted to on every occasion; and the trunk of the body should, in all cases, be exposed to the view of the practitioner, in order to ascertain if fulness or bulging exist in any part of the hypochondrium or in its vicinity. When manual examination is being made, one hand of the practitioner should be pressed at first gently upon the part between the base of the right shoulder-blade and the spine, whilst with the other he endeavours to detect, gently, delicately, and with refined tact, tenderness, fulness, or distention, either beneath the right false ribs, at the epigastric region, to the left of this region, or between the right hypochondrium and umbilicus. The state of the intercostal spaces should also be examined on the right side: and if pain be complained of in any of these situations, its nature may be inquired into by careful and varied pressure, whilst counter-pressure is being made on the back, in the place pointed out. The patient ought also to be made to breathe fully at the time when this examination is going forward, and he may be directed to bend, or move his body in various directions. If fulness, tumefaction, or distinct tumour, be felt, the practitioner should endeavour to ascertain their nature by gentle and varied pressure with the points of the fingers; and the existence of tenderness, the degree of tenderness, the depth at which it seems to be seated, and the presence of fluctuation, whether obscure or palpable, ought to be inquired into with as much dexterity as the practitioner can command." 437.

ETIOLOGY.

Amongst the first causes of hepatic inflammation, Mr. A. places all those which "disorder the functions of the stomach, and at the same time derange the circulation in the biliary organs." This vagueness of expression is not much cleared by what immediately follows:—"These are whatever directly or indirectly produces a plethoric state either of the vascular system generally, or of the digestive organs, with debility." In a subsequent page we have a more tangible catalogue of the causes which produce hepatitis in our Eastern possessions. These are, full living, especially on animal food—high-seasoned dishes—high temperature—moisture—malaria—neglect of the bowels—indolence—puberty—wine—insolation—depressing passions, and all the various causes of dyspepsia.

It is curious that the age of puberty seems to be so operative in disposing to hepatitis. The disease is seldom or never met with amongst Europeans before that epoch. There are many circumstances, however, which call into play the various causes of gastric and hepatic affections after the age of puberty, which were previously inoperative. Among the causes enumerated, Mr. Annesley dwells strongly on the effects of bad water. The depressing passions are consequences and causes equally of the disease in question. The influence of atmospheric heat in the production of hepatic derangements is now acknowledged almost universally; and it is on this principle chiefly, that we can account for the comparative frequency or infrequency of the disease in different parallels and localities of our Indian empire.

"A varied observation in different provinces in India has furnished us numerous proofs in illustration of the very extended influence of this cause amongst the natives of temperate climates; and we need only refer to the Abstracts of the returns (given at p. 110 *et seq.*) and in the Appendix to the present Volume, for proofs of this influence on an extended scale. In the Carnatic, the prevalence of hepatic disease is well known: here the range of temperature is much higher than in any other part of India; the fall of rain is also very much less than in the provinces under the Bengal and Bombay presidencies; and the soil more naked, more gravelly, and less retentive, than the latter: hence the great heat is not so frequently nor so adequately abated; and the cooling effects of a fall of rain sooner cease. Whilst the provinces under the Madras presidency are near the equator, several of the other districts of the British empire in India are situated beyond the tropics; and thus, from latitude, and the various peculiarities of soil, situation, and climate, the Carnatic and several other provinces in the Indian peninsula possess a much higher range of temperature, and a proportionately greater liability to inflammatory affections of the liver. It is sufficient for us to express the result of our own observations respecting the matter, since the same fact has been very justly stated and illustrated in Dr. James Johnson's valuable work on tropical diseases, which is deservedly in the hands of every practitioner in warm climates." 441.

A series of very instructive cases of acute inflammation of the liver are here introduced by Mr. Annesley. One case will be sufficient to illustrate the treatment of acute hepatitis, to which we shall next proceed.

"*Case.* Richard Kelly, (had been several years in India,) was admitted the 15th March, 1817, with the symptoms of congestion of the liver and accumulation of bile. These were removed by an emetic and purges. Five days after his discharge he returned, and on the evening of the 22d, the following report of him was given in the hospital journals:—Attacked with severe aching pains in the loins, shoulder-blades, and right side; anxiety; cold partial sweats; foul and excited tongue; and quick pulse.—Apply twenty leeches to his side. Calomel, gr. xx. h. s. s.

23d.—The pain in his back and side is relieved; but he has still occasional pain under the ribs: he has also some pain in his right shoulder. Tongue white and excited; pulse 80, small, irregular, and irritable. The pain is increased on a full inspiration. Was purged in the night.—Twenty-four leeches to the side; and the mist. purgans, with half an ounce of sulphate of magnesia.—*Evening.* Pain of the side nearly gone, but he complains of soreness over his whole body; pulse 96; tongue dry, furred, and excited; great thirst; stools crude and copious.—Calomel. gr. xx. h. s. Mist. salina febr. A blister to his side.

"24th.—Stools crude and full of viscid mucus; pain in his side and shoulder gone; tongue white and furred; pulse 78.—Pulv. purgan. ʒjss. stat. Rub in ʒj. unguent. mercur. thrice daily. Pilul. hydr cum calom. no. 1 ter die. Haustus amar. cum sennâ, ℥ij. primo mane.

"This treatment was continued during the 25th and 26th. The pulse became less frequent; his tongue cleaner; and his motions more natural. On the 27th, he had a slight return of pain in the night, beneath the fifth rib of the right side; but his tongue and stools were natural at the morning visit; his pulse 66; and his skin cool.—Twelve leeches were applied, and the pilul. hydr. cum. cal.; the mercurial friction and haust. amar. cum sennâ were continued.—*Evening.* Can breathe with perfect ease; no complaint.—On the 31st, the mercurial friction was diminished; the pilul. cum. cal. was omitted; and five grains of blue-pill given every night; the saline mixture through the day: and a dose of the purging mixture early in the morning.

"On the 2d of April, he was perfectly well; his bowels, tongue, skin, and pulse, being perfectly natural. The blue-pill and mercurial friction were left off; and a dose of the purging mixture given occasionally. He was discharged on the 4th.

"*Remarks.* This case illustrates chiefly the connexion often existing between functional disorder and inflammation of the organ. The symptoms were clearly referrible, in this case, to the liver, and indicated disease affecting principally its internal structure. In this case there was no rigour at its commencement; and the pain of the shoulder was at first not present. General soreness, after the pain had been removed by depletions, was here complained of, and is a frequent symptom of inflammation of the internal structure of this important organ." 448.

TREATMENT OF HEPATIC INFLAMMATION.

This is one of the most important subjects which a tropical writer can descant on—especially as there is some discrepancy of opinion, not so much in respect to the nature of the remedies, as to the extent of their application.

General and local bleeding. Although this is the most powerful of all therapeutical agents, even between the tropics, yet it is not *there* practised to the extent which Mr. A. deems proper. This, of course, is owing to a lingering portion of ancient prejudice. The following are his sentiments on this head.

"We can truly say, as respects the different forms of inflammation of the liver as they occur in India, that we have had occasionally to regret not having practised blood-letting when it might have been attempted with hopes of success, or carried it sufficiently far to be really beneficial; but we have never found that mischief resulted either from its performance, or the extent to which it had been pushed. Numerous instances, on the other hand, have come before us where,--from early education, the indulgence of prejudices, an indifference to the examination of those who have died of this class of diseases, and, consequently, from an insufficient acquaintance with the nature and extent of disease which occasioned death, —sufficient vascular depletion had been neglected at the stage of the malady when it might have been more serviceable, and the formidable consequence of disease prevented." 583.

Leeches in India are abundant and of excellent quality--consequently local depletion, to any amount, may be expeditiously affected. In the majority of cases, the local is preferable to the general bleeding—though the latter is indispensable amongst those who are fresh from Europe, full-blooded, and robust. Mr. Annesley ascertained that Indian leeches, on an average, extracted an ounce and a quarter each, besides what flows from the bites. In the active forms of hepatitis, then, and among recently arrived Europeans, Mr. A. took one or two bleedings from the arm—the first carried to the point of making a sensible impression on the vascular system. When the excitement returned, from 16 to 30 leeches were applied to the right hypochondriac and epigastric regions. If the symptoms were not considerably relieved by these general and local depletions, the leeches were re-applied and a large hot poultice laid over the bites, these last being stopped from bleeding previously. Mr. A. attaches great importance to the poulticing practice, especially where the hepatic disease is complicated with biliary derangement and dysenteric symptoms. The repetition of the local bleedings must, of course, depend on circumstances that require no detail here.

Among those who have resided long in India, local depletion will be generally sufficient, even in the most acute forms of the disease. With soldiers who have been addicted to strong liquors during their tropical services, depletion must be very cautiously employed.

Mercurials—Purgatives, &c. When we consider how much the function of the liver is deranged before and during the attack of hepatitis—and how morbidly altered are its secretions, we cannot be surprised that purgation, and especially mercurial purgation, should be very generally necessary.

"For this purpose, we have generally prescribed, immediately after the first vascular depletion, a full dose of calomel, as this medicine appears to us the most beneficial in inflammatory states of the system, the most active in eliciting a healthy secretion of bile, and the most efficient in dissolving that viscid and tenacious secretion which covers the mucous coat of the intestinal canal at the commencement of nearly all the disorders affecting the organs of digestion. Unless the patient has come under treatment early in the day, when we have given this medicine immediately, we prefer the exhibition of it at bed time, as it will then not disturb the rest of the patient by its operation, and will have had time to produce its effects upon the secretions and secreting viscera before morning; when a brisk purgative should be given, in order to carry out of the system accumulated fæces, and those morbid secretions which the previous exhibition of the calomel had prepared for removal." 593.

Mr. A. prefers the compound powder of jalap to other purgatives, for the above purpose—next to it, castor oil, and lastly, the "black draught." It is of great consequence in this complaint that the patient should not be disturbed in the night—and, therefore, when the bowels are irritable, Mr. A. recommends an opiate—even when it is necessary to give calomel every night. The following observations are important.

"If the exhibition of twenty grains of calomel at bed time, and a purgative in the morning, saline diaphoretics being given through the day, affect the mouth, which frequently happens when vascular depletion has been carried sufficiently far, ptyalism should be quickly induced; but after its supervention, mercurials ought to be laid aside for a time. The reason of our recommending the speedy induction of ptyalism after the mouth becomes affected, is an idea which we entertain respecting the influence of the constitutional effects of mercury upon inflammations of the liver; namely, that to induce the mercurial excitement of the vascular system, indicated by slight soreness of the gums, and to exhibit mercury or calomel in small quantities, frequently repeated with this view, is to keep up a state of slow inflammatory action in the secreting substance of the liver, which may of itself terminate in abscess; whilst, if the full operation of mercurial remedies be speedily induced, and ptyalism become abundant, a derivation from the seat of disease is occasioned to the mouth and salivary apparatus, the disease in the liver speedily subsides, and the functions of the organ are restored to their healthy state. We believe that much evil very frequently results from the general habit of giving too frequent doses of calomel, with a view of inducing the constitutional effects of mercury. Those who prescribe five grains of calomel every three or four hours, with this view, produce much greater irritation of the alimentary canal, are longer in obtaining their object, and exhibit much more calomel for the removal of the disease, than those who give twenty grains only at bed time. This latter dose acts as a sedative to the irritable stomach in this disease, whilst smaller doses increase the irritability of this viscus when it is present, and often induce it where it was previously absent." 594.

If bowel complaint exist or supervene, one or two grains of opium are to be combined with the calomel, and emollient enemata should be thrown up. In this way the calomel will soon affect the system, especially if vascular depletion have been sufficiently employed previously. Mr. A. is not an advocate for going on to the production of full ptyalism in those cases where the secretions become healthy before that event takes place, and the other symptoms subside.

"But if the secretions and stools still remain morbid; if any disorder can be detected, by a careful examination of the patient, in the seat of the liver or in the abdomen; if the tongue be not natural, and if the countenance be sallow or unhealthy,—the speedy induction of ptyalism will then often prove of service. If, however, we fail in inducing this effect in the course of four or five days, we shall generally find it detrimental to continue this plan any longer. The means by which the speedy induction of the mercurial action may be accomplished are various; but we have generally relied most upon mercurial inunction, performed thrice a day, with a combination of camphor with the mercurial ointment, the patient taking the usual full dose of calomel at bed time, combined with James's powder, or antimonial powder and opium." 596.

Ptyalism once fully established, the mercurials are to be discontinued, and gentle tonics, combined with alkaline carbonates, are to be administered, together with saline aperients.

In the subacute and less active forms of Indian hepatitis, the use of saline purgatives, alternated with mercurials and alteratives, will generally be sufficient, after moderate depletion. But these failing, "the practitioner should endeavour, in the manner stated above, to induce, as speedily as possible, the full effects of mercury."

Auxiliaries in the Treatment. "There are very few remedies which are more deserving notice than the nitro-muriatic acid wash, and the internal use of nitric acid, in cases of acute hepatitis, after active depletions and mercury have been used: they promote the return of strength and the healthy establishment of the biliary secretion; and if deobstruent laxatives, with suitable regimen, be prescribed, and adhered to during their use, they remove obstructions, and promote a free circulation in the vessels of the liver. As a restorative of the energies of the system after mercurial courses, they have generally proved beneficial in our practice, particularly when conjoined with the cautious exhibition of gentle tonics, with light but nutritious diet, and suitable regimen." 600.

On the complications of acute hepatitis with pleuritis, gastritis, and inflammations of different contiguous organs, it is quite unnecessary to dwell, since the principles of treatment cannot be misunderstood, after what has been already detailed. From this article, the English reader will be able to form a very correct idea of the practice of medical men in the acute and dangerous inflammations of the liver between the tropics. Mr. Annesley is a man of such ample experience, sound judgment, and scrupulous fidelity, that every thing falling from his pen is highly valuable. If we have regretted the costly manner in which he has cast his volumes, and the unnecessary minuteness with which he has treated most of his subjects, we can assure him that not one of his most ardent admirers entertains more unfeigned respect for his talents and industry than ourselves. We cannot help again suggesting to him the propriety of publishing the letter press of these volumes in a more condensed and less expensive form, leaving the plates to be purchased by those who can afford the expense.

In our next article we shall take up the important subject of Chronic Hepatitis, a disease now imported annually into this country, so as to make it a matter of anxious investigation with every medical practitioner. An accurate acquaintance with the acute forms of Indian Hepatitis, however, is indispensable to the study of the chronic forms, and for this purpose we have laid before the English reader a very comprehensive analysis of the facts and observations recorded in the great work before us.

From the London Medical Gazette.

LUXATION OF THE FEMUR.

To the Editors of the London Medical Gazette.

Gentlemen:—The following is a correct statement of the particulars of a case of luxated femur, recently admitted into St. Thomas's Hospital under my care. The circumstances entitling it to notice are, the reduction after so long a period as five to six months; the relapse of the bone from its socket in the patient's movements upon his bed, and the yielding of the cervix femoris during the efforts for its replacement, on the sixth day following. The issue of the case shall be communicated; but as, in addition to the above reasons for its publication, it is probable that inaccuracies may find their way into the reports of bystanders, I beg to authenticate the following.—I am, Gentlemen,

Your obedient servant,
BENJAMIN TRAVERS.
Bruton Street, 17*th Nov.* 1828.

A stout middle-aged countryman, whilst employed in felling a pollard on the 4th of last June, was struck down by its unexpected fall; his right arm was fractured, and his right thigh dislocated. He describes his sensation as that of being beaten away from his limb, while, from his position, it was in a state of extreme abduction from the trunk. On his admission into St. Thomas's, on the 4th Nov. inst. the limb was observed to be shortened about two inches, the knee and foot inverted, and the thigh slightly bent upon the pelvis. It was immoveable, except to a very limited extent, and the attempt at abduction or rotation outward painful. The head of the bone was very distinctly felt lying upon the ilium, above the ischiatic notch; and the trochanter in a line drawn from thence to the anterior inferior spinous process of the ilium.

On the 7th Nov. (with the concurrence of my colleagues) the man was placed in a bath, heated to 90 degrees, and gradually raised to

108 degrees during his immersion for 20 minutes, when he was carried directly to the theatre. He was bled to ℥xxii. whilst in the bath. Being now laid upon his back, and the counter extension secured by a padded belt passing between the displaced bone and the pubes in a right line with his body, the extension was made in much the same line of direction, by a rope and pulleys attached to a padded strap made fast above the knee. As the extension proceeded the pelvis was fixed by a girth round the table, and a round towel, passed under the top of the femur, was drawn upwards by an assistant. During the operation the man took at intervals a solution of half a grain of tartar emetic, and lost another pound of blood from his arm. Gentle rotation of the knee and foot outwards was made from time to time, and at the expiration of about 45 minutes the head of the bone, which had been felt progressively descending, slipped into the acetabulum with a sharp and very audible report. Immediately after releasing the patient, the observation was made that the limb was shorter than the other; but it was no longer inverted, was free to move to the extent which was thought prudent, and the configuration of the hip, as compared with the opposite, and the natural distance betwixt the spine of the ilium and trochanter femoris, were restored. The man felt (to use his own phrase) that it was all right; he was replaced in bed, with his knees bound together by a roller, and a strong caution to remain strictly without motion; also to pass his stool, when he had occasion, upon the draw sheet. Half an hour after his removal to bed I carefully examined his limb, and found it straight, and to appearance, of the same length with the opposite. In the night he became very restless from pain in his loins, from which he had suffered much since the injury; and although repeatedly cautioned by the sister and a fellow patient to lie quiet, turned himself over to the left side, and repeatedly raised both knees. The bed-pan also was employed contrary to express direction; and for this purpose he assisted in raising himself. The consequence of some one of these movements was, that the limb was again displaced, and the next day the head of the bone was ascertained, upon examination, to be lying imbedded in the notch, so that only a segment of it could be felt. Having some febrile action, a dose of scammony and calomel was given, and an antimonial draught prescribed, to be repeated at intervals. On the 6th day (Thursday,) being well recovered, and with excellent courage to repeat the attempt at reduction, he was again conveyed to the theatre, the precaution being taken to prepare a double inclined plane-bed, and adapt it accurately to the length of the sound limb; upon which it was intended to confine him by fixing the foot and pelvis. The head of the bone was now less advantageously situated for reduction. The man was laid upon the table, which was placed obliquely between the points of extension, inclined to his sound (left) side; and the extension so applied as to draw the thigh a little obliquely upward, in a direction across the opposite. An assistant raised the shaft of the bone at its upper extremity, and rotation was occasionally made of the knee and foot to such extent as the strictness of the extension would allow: the pelvis was fixed as before. A full basin of blood was taken from his arm, and he took two doses of the solution of emetic tartar. On relaxing the cord, after a second extension of about a quarter of an hour, for the purpose of giving more scope to the requisite motions of the limb, a degree of mobility was instantly perceived, together with a distinct sense of crepitus, which totally altered the nature of the case. Upon minute examination, the cervix was discovered to have given way, and the head of the bone, apparently broken short off, lay upon the ischium, above the spine of that bone, at the lower and outer edge of the acetabulum. The limb was, of course, free to move, the foot slightly everted, and in length little differing from its fellow.

The man was now placed upon the fracture bed, the foot of the affected limb secured, as in fractured cervix, and the pelvis strap applied. Some simple dressing was laid upon the excoriated knee and groin, and the man being chilled, and complaining much of pain, 50 drops of tincture of opium were given him in a camphor draught. At 9 P. M. his chilliness had abated; he still complained of pain in the hip, but felt a disposition to sleep. Nov. 14. Had some refreshing sleep, but complains less; bowels not opened. Ordered to take a dose of P. Scamm. c. calomel, which operated freely. Position of the limb remains unaltered. Nov. 15. Patient easy; bowels well opened during the night. Nov. 17. The patient is entirely free from fever, and makes a little complaint of the knee and loins, none of the hip. The right limb is about an inch the shorter of the two.

From the position in which the man describes himself to have stood at the time the blow was inflicted, we should have said the dislocation upwards and forwards was that most likely to have been produced; but it is probable his position underwent some instantaneous change, of which he was not conscious, in the effort to escape whilst the tree was swerving from the direction in which it was meant to fall. I have said that upon his admission the head of the bone was distinctly felt above the ischiatic notch, *i. e.* at its superior and anterior margin. Here it is easily felt, being covered only by the glutæus maximus muscle. I am disposed to think, with the late Dr. J. Gordon,[*] that this is the common situation of the head in the luxation upwards and backwards, and not the hollow of the dorsum; in which, according to Boyer, it forms a cap of the glutæus minimus. This was the situation in which Mr. Trye, of Gloucester, found it, in a dissection made on the twenty-second day from the accident, when it was brought into view by raising the glutæus maximus, not placed on the dorsum of the ilium, but inferior to the margins of the lesser glutæi. If the head of the bone lay in the hollow of the dorsum, the shortening of the limb would be nearer four inches than two.

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[*] A Probationary Essay on Dislocations of the Thigh Bone. Edin. 1808.

I have been asked whether the fracture did not occur in the first attempt at reduction; and whether the snap attributed to the restoration of the bone to its socket, was not occasioned by the fracture. I answer—

If the crash of fracture resembles indistinguishably the peculiar short snap, or pop, which generally attends reduction of the femur, and often, though for obvious reasons in a less degree, of the humerus;—if the signs of fractured cervix are immobility, permanent flexion of the thigh on the pelvis, and inversion of the knee and foot, so that the inner condyle of one femur lies against the base of the opposite patella, and the toes of one side upon the instep of the opposite foot; if these are indications of the case supposed, I will yield the conviction which I had derived from actually grasping the head of the bone during its descent, until it suddenly slipped into its place. With respect to the seeming shortness of the limb after reduction, a slight change of the points of bearing, instinctive on release from painful confinement—and every body knows how great a change in the appearance of the limb the slightest obliquity of the pelvis produces—can alone explain it, since the difference had disappeared in half an hour after the patient had been replaced in bed.

Mr. Osler, late surgeon to the Swansea Infirmary, sent me the report of a case of recent dislocation on the dorsum ilii, which relapsed twice as the man lay in his bed, at short intervals after the reduction. It was reduced a third time, and the parts so confined as to prevent a recurrence of the accident; and the man recovered perfectly. Mr. O. attributed the circumstance to a co-existing fracture of the brim of the acetabulum.

Much as I regret the accident which defeated the second attempt at reduction, I am not without hope that the termination of the case may be more favourable than that of non-reduction.

The accomplishment of reduction after a period of twenty-two weeks and four days is, I believe, unprecedented; it is an exception to a surgical canon, resting on high authority, that, after the lapse of a much shorter period, the attempt should not be made.

The indispensable importance of securing the limb by extraordinary apparatus, which was, in this instance, unfortunately overlooked, from the little apprehension entertained in ordinary cases, I need not insist upon. It may be concluded that, in addition to the destruction of ligamentous attachments, and the formation of preternatural adhesions, some considerable changes had taken place from absorption in the dimensions of both ball and socket, predisposing, probably, to the relapse in the first instance, and the fracture in the second.

Medical and Philosophical Intelligence.

Puerperal Insanity—From 57 cases of this malady treated by Dr. Burrows, he deduces the following corollaries:

1. That mania is a more frequent consequence of lying-in, and the process of lactation, than any other variety of mental derangement.
2. That puerperal insanity occurs from the age of twenty to thirty, in the proportion nearly of two to one at all other ages.
3. That in London, physical causes much more frequently originate puerperal insanity than moral causes, the physical being to the moral as ten to one.
4. That the access of puerperal insanity happens before the fourteenth day in three out of five cases.
5. That it happens between the fourteenth and twenty-eighth days in one out of about six cases and a half.
6. That nearly four in five recover their intellects.
7. That not more than half recover in six months.
8. That those recover soonest whose delirium supervenes on the process of lactation.
9. That the maniacal form ceases sooner than the melancholic.
10. That the mortality is *apparently* but not *really* double Esquirol's return;* and that the greater number of deaths occurred before the second week from delivery.
11. That half, and possibly more, if the truth could always be discovered, attacked by puerperal insanity, prove to possess an hereditary predisposition.—*Commentaries on Insanity.*

Case of Tetanus, with Inflammation of the Spinal Chord, and Disease of the Anterior

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* There were only six deaths in 92 cases recorded by Esquirol, and as not one of them occurred till more than six months from the access of the insanity, Dr. Burrows attributes the difference to their having all become chronic, and taken in the aggregate he observes, they do not give a greater rate of mortality, than is allotted to the same number who are insane from other causes. Of the 57 cases mentioned above, ten terminated fatally.

Roots of the Spinal Nerves.—This case, which occurred at Udina, is strongly in favour of the opinion, that the cause of tetanus is inflammation of the spinal chord; it also confirms Mr. Bell's idea, that movement depends on the anterior, and sensation on the posterior, roots of the spinal nerves.

A woman, of forty years of age, felt, in consequence of over exertion, a difficulty of moving the lower jaw, a stiffness of the neck, and a tensive pain in the limbs. On the ninth day, after the first appearance of these symptoms, she was taken to the hospital; tetanus and trismus were then fully developed; the former in the form of emprosthotonos. Warm baths seemed to diminish the spasmodic affection of the jaw, but that of the trunk increased, and carried the patient off on the twelfth day. On examination after death, the brain was found in a healthy state; the vertebral canal was filled with a bloody serum; the anterior portion of the spinal chord was of a yellowish dirty white colour, and covered with small round and oval hydatids, from the size of a millet-seed to that of a pea; its substance exhibited reddish spots; the posterior part was healthy; the posterior roots of the spinal nerves had a very different appearance from the anterior roots; the latter were evidently softened, and presented a yellow colour; the former were perfectly healthy.—*Lancet.*

Hydrophobia.—Dr. Hertwig, professor at the veterinary school of Berlin, has seen in this establishment nearly two hundred mad dogs, and has lately published the results of his experience. Male and female dogs are equally subject to rabies at every season of the year; it is hardly ever accompanied by the dread of water, nor is foaming at the mouth a constant symptom; at first, the dog does not carry his tail between his legs, nor does he always run in a straight line, unless he is pursued. There are, apparently, two modifications of the disease; the one Dr. Hertwig calls the acute or fierce, the other the chronic or quiet rabies. In the first the dog becomes very restless, runs about, flies from his home, and returns again; does not easily forget his master, and even obeys him; afterwards loses his appetite, eats wood, straw, wool, and other indigestible substances; *often drinks*, and is constipated. The most characteristic symptom is a change in the voice; the tones of which are either higher or lower than usual; hoarse, rough, disagreeable, and indicative of distress. The bark is changed into a howl, the dog has an inclination to bite, and appears to see flies, as he often snaps at the air; his external appearance is, at first, not changed; but within a short time, the eyes become blood-shot, and are frequently closed for a few seconds; the skin of the forehead is corrugated; in the last period the eyes are turbid as if covered with sand, and paralysis of the hind-legs always occurs before death. The chronic or quiet rabies exhibits the following symptoms: from the beginning the lower-jaw hangs down, by which the dog is prevented from eating and drinking; the saliva flows from the mouth, and the tongue is stretched out; he cannot bite, and seems very little disposed to do so; is very tranquil and sad, and seldom howls.

In none of the two hundred dogs, the disease lasted for more than ten days.—*Graefe u. Walther's Journal.*

Structure of the Veins. By Mr. Curtis.—Having repeatedly injected the pulmonary veins, contrary to the course of the circulation, I was somewhat surprised to see in a number of the Lancet, dated Aug. 9th,* an account of their containing valves. This has induced me to examine the lungs of such animals as have come in my way with a view of discovering these valves; but I have been unable to perceive any thing that would in any way answer the same purpose as the valves in the veins of other parts of the body, In the pulmonary veins of the ox I certainly found, that where a small vein falls into a large one obliquely, the serous coat extends the division between them farther than the other coats; consequently part of the septum, between the veins, is entirely formed by this serous membrane; but this piece of membrane is in no way fitted to perform the office of a valve. It is elastic, and kept constantly tense; consequently, will not easily move to either side. It requires considerable force to draw it over the mouth of the smaller vein, which even then it will not completely cover.

To me it appears that the only use of this piece of serous membrane, extending beyond the other coats of the veins, is to prevent the too abrupt termination of the septum between them, which would have happened had all the coats terminated at once. In this case there would have been a small space left, which would have been out of the regular course of the blood in the veins, and where consequently the blood would have lodged.—*Lancet.*

Difference of the Blood in the Veins and Capillary Vessels.—The October number of the *Journal de Chimie Médicale*, contains some experiments by Dr. Pallas, which go to establish what might, *à priori*, have been supposed, but what, previously to the researches of this gentleman, had not been the subject of direct experiment, namely, that the blood in the capillary system, is more highly animalized than that contained in the veins, being heavier, of a brighter colour, more odorous and viscous. The following is an abstract of the experiments referred to.

A man who had had tertian fever for six days, during the greater part of which time he had been strictly dieted, was bled from the arm, while, at the same time, twelve leeches were applied on the right, and three cups on the left side of the epigastrium. A vessel filled with the venous blood as it flowed from the arm, weighed 19,950 grammes; the same vessel filled with the blood drawn by leeches, weighed 20,450 grammes; an equal quantity taken by means of cupping weighed 20,400. The venous blood had a deep black colour, and separated in a few hours into crassamentum and serum; that drawn by the leeches, was more viscous, presented a bright red colour, and exhaled an odour resembling that of a mixture of bile and urine; the crassamentum was larger than that formed from the venous blood. The blood obtained by means of the scarificator, had a deep red colour, was viscous, and exhaled a well marked bilious odour. The serum of the three kinds of blood was clear and transparent; that which was furnished by the blood drawn by the leeches, was red, and of a deeper colour than the others. Treated separately with an ounce of distilled water, the three specimens were subjected to ebullition to coagulate the albumen, in order to appreciate more correctly the proportion of the liquid to the solid parts. The following was the result obtained. Solid parts of the venous blood well dried, 2,550; of the blood drawn by leeches, 3,100; of the blood obtained by cupping, 3,000.

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* Journal of Foreign Medicine Vol. ii. page 473.

The subject of the second experiment had had, for several days, an intermittent gastric affection, accompanied with general irritation of the vascular system. The vessel above mentioned filled with blood as it flowed from the vein, weighed 20,350; an equal quantity taken, not as in the preceding experiment, from that which the leeches had sucked, but collected after their fall from the bites which they had made, weighed 20,750: in this instance also, the latter was heavier, more coloured, odorous, and viscous than the former. Treated with water as before, the venous blood gave of solid parts, 2,550; that taken from the capillary vessels, 2,630.

In a third experiment, which was accidentally interrupted, the blood drawn from the vein, and from the capillary system, weighed respectively 20,700, and 20,950; as in the other experiments, the latter was also more highly coloured, more odorous, and viscous than the former.

It is to this difference of chemical composition, observes M. Pallas, that we must attribute the preference given by physicians to local bleeding in a variety of cases. Although many causes must concur to vary the proportions of the constituent principles of human blood, such as age, sex, temperament, constitution, manner of living, health, disease, &c., &c.; the difference which we have pointed out, must be uniform in the same person, and explains the important rank accorded to the blood of the capillary vessels in the production of the phenomena of life.

Vaccination.—The London Medical Gazette for Oct. 25th, contains some observations by Dr. Alderson, on the carelessness and indifference with which vaccination is performed in many parts of England, causes to which the great number of failures which have occurred are mainly attributable. It has long been, he observes, my most firm conviction, that the genuine cow-pock will never be promulgated universally and efficiently—that the public will never be freed from frequent and terrible visitations of the loathsome pestilence vareola—until the legislature shall, in their wisdom, devise some plan to obviate the present defects—some decisive measure whereby the ignorant empiric shall be silenced, and the children of the poor throughout every corner of the island, in every hamlet, parish, and village, regularly and skilfully vaccinated by the appointment of competent persons for that important work: without some such system there can be no security. I will take four-fifths of this populous kingdom, and declare it to be my firm conviction that, for the last twelve years, vaccination has most decidedly lost ground; that, instead of increase of zeal, you will meet with careless indifference: in lieu of that enthusiasm and humane solicitude which at first characterized the application of this wonderful discovery, you will meet with a yawning spiritless apathy; that is, indeed, deeply to be deplored, and surely calls for a prompt and decisive remedy.

[The following extract, in allusion to an opinion expressed by Dr. Gregory in his essays on vaccination, republished in the first and second volumes of the Journal of Foreign Medicine, will be read with interest.]

Dr. Gregory appears to believe that a vesicle with areola never does exist as a local disease, and merely as such: now it is my opinion that this may be the case, and, indeed, that it is not very unfrequently so. I beg leave to transcribe, in illustration, a striking case of inoculated smoll-pox, published by the College of Physicians in 1785.

"Last spring I inoculated two children in one family. On the third day there was a slight inflammation around the places of incision; on the fifth day it was considerably increased, and the places felt hard upon being pressed by the finger. I saw them again on the seventh or eighth day; and then the inflammation was much increased, extending nearly to the breadth of half-a-crown. Upon my applying a gentle pressure to the inoculated places, matter issued out of them, with which, as it issued from the arms of both patients, I perfectly saturated a cotton thread. With this thread I inoculated nineteen persons, by first making a slight incision in their arms with a clean lancet, and then applying a small piece of the cotton thread, and a plaster to retain it upon the place, as is usual. Every one of these had a fever and eruption of pustules at a proper time. But the children from whom the matter was taken did not sicken, as was expected, and on the eleventh day the inflammation upon their arms was considerably abated; and two or three days after this there remained nothing but a dry scab. Agreeably to the general opinion of the faculty, I told the parents that their children were secure from future infection of the small-pox. They, however, insisted upon their being inoculated again, which was accordingly done in the arm of each. Contrary to my expectation, their arms began again to be inflamed, and went on in the same manner as they had done before, till about the ninth or tenth day, when they sickened, had a smart fever for three days, and then an eruption of a considerable number of variolous pustules.

"This I aver to be true, how ill soever it may agree with any preconceived theory concerning infection; and the ignorance of what is obviously deducible from this fact has sometimes brought a discredit upon inoculation, for I know that there have been some instances where the inoculator, from the appearances upon the arm only has pronounced his patients safe from any future attack of the small-pox, and yet, some years afterwards, they have taken that disease in a natural way."

Reasoning from analogy, we, I think, may safely, and not improperly, assume that if it is proven that the variolous pustule has existed locally and purely so, that the vaccine vesicle may likewise exist as a local disease. This appears to me by no means gratuitous, but a fair and legitimate conclusion.

Deformity of the Thigh arising from Fracture cured by an Operation. By Professor Riecke.—A man fractured his left thigh by a fall from a height, and in consequence of improper treatment the limb became shortened nearly a foot, and could not be moved without exciting great pain. On examining the parts, Professor Riecke ascertained that the femur had been fractured transversely in its middle, and that the two fragments had passed each other, so that the extremity of the upper portion was felt immediately beneath the skin, while that of the lower was united to the superior fragment by a very irregular callus, at the distance of six or eight inches above the fracture. The thigh formed an arch, the convexity of which was turned outwards; the patient was unable to move without suffering the most violent pain, which subsided only when the leg was placed across the other. The Professor thought he could perceive a slight mobility between the two fragments, and it was this circumstance which induced him to perform the following operation:—An incision was made through the integuments from the great trochanter to the external condyle; the muscles were then divided, and the bone exposed; the callus being very solid, recourse was had to the saw, but the soft parts opposing an obstacle to the complete division of the callus, this part of the operation was finished by means of the chisel and mallet; he afterwards removed with the saw the extremity of the superior fragment, dressed the wound according to the method of Boyer, and applied Dzondi's machine for extension. Profuse suppuration followed, many pieces of bone were discharged, and eight weeks elapsed ere the patient was considered out of danger. The fragments appearing consolidated, and the knee somewhat chaffed, the machine recommended by Mr. Charles Bell, in fractures of the thigh, was substituted; but when the wound had nearly cicatrized, it opened, to give exit to a large fragment of necrosed bone, and the fracture being again found moveable, the bandage employed in the first instance was had recourse to, and continued during three months; it was not until eight months after the operation that the fracture was firmly united, and the patient discharged cured.—*Archives Générales de Médecine.*

Urinary Calculi.—M. Guéneau de Mussy communicated to the Academie Royale, the following curious instance of calculous affection. A man who had long had a large but indolent tumour in the right hypochondrium, ultimately died; on opening the body, a cyst was found as large as a child's head, formed at the expense of the inferior part of the right lobe of the liver, and extending to the right kidney, the superior part of which it had destroyed. The lateral parietes of the tumour were so weak that they broke when touched, and a large quantity of serum mixed with clots of a white caseiform matter, and enveloping three irregular calculi, were discharged. In what remained of the kidney, another calculus was found, covered with crystalline asperities, and presenting inequalities of greater or less depth, corresponding to the divisions of the calices and the pelvis. The calculi together, weighed about four ounces. No trace of carbonic acid or ammonia was found upon analysis; they appeared to be composed of phosphate of lime. The superior parietes of the tumour were formed by a lardaceous tissue; the liver above was of a deeper colour than natural, but healthy; the left kidney was sound, but contained several small, yellowish calculi.—*Arch. Gén. de Méd.*

Extirpation of a Cancerous Uterus.—A woman, æt. 30, who in her youth had always enjoyed good health, and menstruated regularly up to the age of 22 years, was affected, after having borne several children, with a slight leucorrhœa and hæmorrhoidal tumours, to which were added, subsequently to an abortion caused by an external injury, a prolapsus of the anterior parietes of the vagina, and retroversion of the uterus, which was twice treated successfully. After an accouchment, about fifteen months since, all the symptoms characteristic of scirrhus of the uterus made their appearance, and left no hope of cure. Dr. de Siebold calling to mind an analogous case, cured by an operation, resolved to attempt the extirpation of the uterus, which was performed on the 25th of July. The patient being placed in a suitable position, the vagina was separated from the uterus, which was fixed exteriorly by means of a thread traversing its vaginal portion, by the aid of the knife of Savigny; the broad and round ligaments were separated and divided; and finally, the uterus itself extirpated. The operation lasted twenty-five minutes, and not more than five or six ounces of blood were lost. Immediately afterwards the patient was seized with great mental depression, with great alteration of the features. Syncope supervened, with hemorrhage, vomiting, cold extremities, and pain in the hypogastria; all the symptoms of acute inflammation of the abdomen developed themselves, and death took place on the 27th, preceded by convulsions.

On dissection, the peritoneum, ovaria, and intestines were found violently inflamed, and even gangrenous in some places; the lungs were filled with tubercles; the liver and spleen were healthy; none of the organs adjoining the uterus had been wounded in the operation. The uterus was indurated and scirrhus from its orifice to its fundus, and already destroyed in some places. (All. Rep. Jan. 1828.) *Vide de Schirro et Carcinomate Uteri adjectis tribus uteri extirpationis observationibus.* Berol. 1826, auctore Dr. Ed. de Siebold.—*Journal des Progres, &c.*

Rupture of the Uterus and Passage of the Fœtus into the Bladder. By M. Ferres.—A woman, æt. 25, had an abortion in the commencement of utero-gestation, during the progress of which, rupture of the uterus and of the posterior part of the bladder taking place, the fœtus passed into the latter organ, and putrefied there. The woman was brought to the hospital, and several bones, mixed with putrid matter, were discharged. After the lapse of two months, however, the whole abdomen was attacked with gangrene, and the patient died. On making an incision into the abdomen, two inches below the umbilicus, where the tumour commenced, a great quantity of fœtid gas escaped; the bladder was ruptured in its superior portion, and on every side adherent to the neighbouring parts; the uterus was in its natural condition, but covered by a thick layer of coagulable lymph, which united it to the bladder; there was also much lymph effused among the abdominal viscera. A large lumbricus was found among the bones of the fœtus. It is to be regretted that the account of this interesting case is so imperfect.—*Archives Générales de Médecine.*

Analysis of Variolous Matter.—During the recent prevalence of eruptive diseases at Marseilles, it was observed that small-pox complicated with petechiæ was almost invariably fatal, while the disease in its simple form terminated favourably. With the view of ascertaining whether there was any difference in the variolous virus in the two cases, M. Roux conceived the idea of subjecting the matter of both to analysis. The following is a summary of the results as obtained by M. Trémolière:

Variolous Matter without Complication.—Colour yellowish, turbid, depositing on standing a grayish white precipitate; a peculiar nauseous animal taste; a loathsome disagreeable odour; oleaginous consistence; specific gravity =1,031 *à* +18,5 R, barometer 757,7. It furnished upon analysis, fibrine, mucus, hydrochlorate of soda, sulphate of potash, phosphate of lime, and water.

Variolous Matter complicated with Petechiæ.—This matter, when collected before death, had a very disagreeable, loathsome odour; taken a few hours after death, its odour was almost insupportable; its consistence was more liquid, and it bore a considerable resemblance to sanious pus. It gave upon analysis, fibrine, mucus, hydrochlorate of soda, hydrocyanate of soda, sulphate of potash, phosphate of lime, and water. If the tests employed by M. Trémolière have occasioned no error in relation to the presence of the hydrocyanate of soda in this virus, this is the first instance of a salt of this kind having been detected in an animal fluid. M. Lassaigne has announced his intention of making an analysis of the same virus.—*Journal de Chimie, &c.*

On the Origin of the Plague.—In the Révue Médicale, M. Pariset brings forward a new opinion on the subject of embalming in Egypt. He endeavours to show, by statistical calculations, that the inhabitants of this country possessed no other means of protecting themselves against the injurious effluvia of putrid animal substances, and that it was, consequently, not an object of religion, as has hitherto been believed, but rather of medical policy; it consisted, originally, in salting the bodies with natron, with which the country abounds, and in afterwards drying them; when thus prepared, the bodies were deposited in places inaccessible to the inundation, and which were the better suited to this purpose, as being, from the same reason, steril. This was the original mode of embalming; the additional processes, which were gradually introduced, are to be regarded merely as the effect of luxury. According to M. Pariset, it appears from the most accurate inquiries, that in the fourth century of our era, the custom of embalming began to fall into disuse in Egypt; that the oriental plague did not show itself before the beginning of the sixth, and that the diseases, which are described by Greek authors, and in the Scriptures, evidently want the characteristic symptoms of the plague. Before the sixth century, Egypt had, for nearly three thousand years, been one of the most healthy countries in the world; but the Christian religion having been introduced into Egypt, the custom of embalming was looked upon as a profane ceremony, and during the fifth and sixth centuries it was, acording to Abbé Fleury's statement, formally prohibited, and the present mode of inhumation introduced. In the year 542, or 98 years before the conquest of Egypt by the Arabians, the first and most terrible epidemy appeared. From the coincidence of these historical facts, it seems very likely that the interment of the dead, (in a country which, after a yearly inundation of four months, is exposed to an intense heat,) and the subsequent putrid fermentation of animal matter, were the original causes of the plague. Humidity, a certain degree of atmospheric heat, and animal matter, are, according to M. Pariset, the conditions necessary for the development of the plague. In no country of the world do these circumstances concur in such an eminent degree, as in Egypt; and thus it is very easily explained, why this formidable disease should have originated in it. From thence it was carried into other countries; but in the latter the disease is not so terrible, nor do the conditions exist there necessary for the spontaneous production of the plague. As a strong proof of the former, it may be mentioned, that at Smyrna, ships from Constantinople are never put into quarantine, while those from Egypt always are so. M. Pariset maintains, that the best, if not the only means of arresting the further progress of the plague, is the re-introduction of embalming in Egypt, to the extent to which it was formerly adopted.

We conclude this notice with stating, that M. Pariset left Paris, at the end of last month, for Marseilles, in order to examine the epidemy now prevailing at this place, where he will, in company with M. Champollion and several distinguished physicians, proceed to Egypt to make further inquiries into the nature, &c. of the plague—*Lancet.*

New Operation proposed for the Stone.—The operation in common use at the Hôtel Dieu is the bilateral, a modification of that of Celsus, in which the prostate is cut obliquely downwards from the neck of the bladder on *both* sides. The incision in the prostate is thus twice the size of that in the ordinary lateral operation: it will therefore give exit to a larger stone, and render a smaller opening into the bladder necessary for this purpose. Yet cases have occurred where considerable effort has still been required for the extraction of large calculi, and where the death of the patient has been occasioned by consequent inflammation and suppuration within the pelvis. In these cases, notwithstanding the incision was made to its fullest extent in these two directions above named, *the gland was found to be lacerated in a stellated form.* It is presumed, then, that if two other incisions be made, one on each side obliquely upwards, the mischief of laceration may be averted.

Dr. Vidal, who suggests the quadrilateral incision, considers it to be a point of extreme importance not to cut beyond the margin of the gland into the bladder, and that the neglect of this precaution is the prolific source of those urinary fistulæ and suppurations which follow the operation.

Where the *incision is confined to the prostate,* and unaccompained by laceration or contusion, the wounded portions of the gland, being swollen after the operation, are thereby brought into contact, and the urine, instead of escaping through the wound into the pelvis, passes through its natural channel. *Not so when the bladder has been wounded,* or when the opening has been made by lacerations or by the gorget, or when portions of the gland have been brought away by calculi studded by asperities on the suface.—*London Med. & Phys. Journal.*

Another Operation for the Stone.—Mention is also made of an operatian by Balardini, entitled "*la taille mediano,*" or median incision, in the raphe of the perineum, extending from the bulb of the urethra to the sphincter ani. The bistoury of the operator is then passed into the bladder along the groove of the staff, and, by cutting its way out, divides the neck of the bladder, the prostate, and the membranous portion of the urethra. The operation is said to be effected with the greatest facility, and to be exempt from the numerous inconveniences attendant on other methods. As no vessels of consequence can be wounded, hemorrhagy may be certainly avoided. The rectum has never been cut in a single instance. The opening into the bladder is the shortest course that can be taken, and admits of greater dilatation than that which is made by any other method.

In comparison with the recto-vesical operation, it may be remarked, that, as no communication between the bladder and rectum takes place, the passage of urine into the intestine, or feces into the bladder, can never occur. This frequently happens in the recto-vesical operation, since, in thirty cases, five have preserved incurable fistulæ.—*Ibid.*

Practical Queries.—A female, aged thirty, generally healthy, and the mother of four children, after easy and natural labours became pregnant early in the present year. Towards the end of August, she was seized with shivering, sickness, and abdominal pains, resembling those of parturition. Her medical assistant was called in during the night, and remained several hours in attendance; when, finding that her pains were spurious, he recommended the recumbent postnre, and exhibited an anodyne and aperient medicine; after which the pains soon subsided. Eight days subsequently, true parturient pains commenced; and, after an easy, short, and natural labour, she was put to bed of a daughter. This child was understood to have been born in the eighth month, but in all respects well formed, and apparently healthy. The right arm, however, was from the first in a state of mortification, from the points of the fingers to a little above the elbow. On the second day after its birth, it was agreed, in consultation, to wait till a complete separation, by sloughing, *down to the bone,* should take place, before removing the gangrenous arm. At the end of eighteen days from its birth, the child had not lost strength or flesh in any remarkable degree, but a perfect separation between the sound and sphacelated parts having taken place, removal of the arm was agreed on. Now, on this subject two questions arise: *first,* at the time of the spurious pains, did the circumstance of disease of the arm begin, and what could have been the cause of this unusual phenomenon? *second,* on a line of separation between the mortified and living parts having been established, by the second or third day after birth, and the child being healthy, whether ought the arm to have been *then* amputated or left to the efforts of nature?—*Lon. Med. & Surg. Journal.*

Absence of the Septum Ventriculorum Cordis.—Fr. S., ætat. 24, subject from his infancy to violent beating of the heart, was, in 1820, affected with pneumonia, in consequence of which, the palpitation considerably increased, and even brought on frequent attacks of suffocation, in which he found no relief, except by pressing the chest strongly against some resistant body. He was treated in different ways, but without any success; an incipient hæmorrhoidal discharge seemed for some time to mitigate the symptoms, but the affection of the heart, and the difficulty of breathing, presently increased anew; the patient was obliged to remain completely still; anasarca, and at last ascites, came on; the heart beat most violently, each pulsation communicating an oscillatory movement to the left side of the chest; the pulse was ninety, equal and regular; respiration stertorous, and the voice scarcely audible. At the patient's request he was tapped; but the operation afforded him only a transient relief, and he expired a few days afterwards.

On examining the body, the pericardium was found of an extraordinary size, and covering almost the whole anterior surface of the lungs. The cavity of the chest was filled by several pints of a bloody serum; the lungs were strongly compressed against the ribs, but not altered in structure. The pericardium was in its whole extent adherent to the heart, the cavities of which were filled with black grumous blood; its volume and parietes were three times larger than usual; the septum ventriculorum was totally wanting, not the slightest trace of it could be found. The origin of the vessels was natural, the apertures of the veins were slightly enlarged, and the aorta was remarkably flaccid. The other organs were found in a healthy state.—*Hufeland's Journal.*

That this was a case of malformation of the heart, there seems to be no doubt, as a subsequent destruction of the septum can hardly be supposed. It strikingly confirms Meckel's most ingenious theory, that the greatest number of monstrosities, (all except those caused by excess of organs and hermaphroditism,) are founded on a retarded formation of the organs; they remain in one of their primitive conditions, without proceeding to their further development. This is evidently shown by the malformations of the heart, the series of which, at the same time, exhibits the centre of circulation in all the different conditions, which mark the different classes of animals, from crustacea to mammalia, and thus distinctly represents the gradual progression through the different stages of animal perfection. We need hardly mention the striking analogy of the heart in the above reported case, and in the genus batrachii.—*Lancet.*

Nymphomania.—At the sitting of the Royal Academy of Medicine of the 1st September, M. Lisfranc, referring to a case of nymphomania cured by cauterization, took occasion to remark that it is incorrect to consider all cases of nymphomania and hysteria as of a nervous nature; these affections often depending upon an inflammatory condition of the neck of the uterus, or on a turgescent state or hypertrophy of the body of that viscus. He related the case of a young lady who was affected with nymphomania, evidently the result of an inflammatory attack, and which was removed by antiphlogistic treatment, such as local bleedings, warm hip baths, and injections of half liquid poultices of linseed: these were retained in the vagina by means of a plug of charpie, and were renewed hourly. M. Lisfranc reckons about ten cases of these affections cured by the same means; nevertheless, he thinks that when the inflammatory symptoms have been removed by proper means, cauterization may be beneficial.—*La Clinique.*

Chemical Characters of Strychnine.—In a late number of the Journal Général, &c., M. Caventou rectifies an error into which MM. Orfila and Lessuer have fallen, in their Memoir on the Detection of Poisonous Substances in Putrefied Animal Matter,* relative to the above article. Pure strychnine, he observes, does not *redden by the action of nitric acid;* it only presents this phenomenon when it contains a small quantity of brucine, which ordinarily accompanies it in the nux vomica, and even in the bean of St. Ignatius, or a yellow colouring matter which he has hitherto found only in the upas tieute.

New Method for Studying the Cavity of the Bony Labyrinth; by Prof. Meckel.—Place the petrous portion of the temporal bone in boiling wax, then dissolve the calcareous phosphate of the bone, by means of dilute muriatic acid; in this manner a preparation in wax is obtained, which shows very well the disposition of the cochlea and semicircular canals, and even the distribution of the auditory nerves in the foramina of the scalæ of the cochlea. This procedure is especially recommended in relation to comparative anatomy. The anatomical collection at Berne contains a series of interesting preparations made in this manner.—*Bull. des Sciences Med.*

On the Fermentation of Opium applied to the Extraction of Morphine; by M. Blondeau.—From some experiments made by this gentlemen, he concludes, that very nearly the entire quantity of morphine existing in opium may be extracted, after the other elements have been decomposed or segregated, by means of fermentation. He states that he has by this means obtained fourteen drachms of morphine from a pound of opium.—*Revue Medicale.*

Internal change in the Position of Particles in Solids.—If a certain quantity of the prismatic crystals of sulphate of nickel be enclosed in a bottle and then exposed to the heat of the sun, it frequently happens that though their external form is preserved, so that they may be measured, yet if broken they are found formed of a multitude of octoëdral crystals with square bases. This change requires two or three days. These crystals by analysis appeared to contain 2.93 parts per cent. less of water, than the prismatic salt containing 7 proportionals. This is another striking instance of the internal motions of the particles of solid bodies.—Mitscherlich. *Ann. de Chimie*, xxxviii. 65.

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* Vide Journal of Foreign Medicine, vol. ii. p. 336.

New preparation of Magnesia.—A preparation of magnesia, called concentrated magnesia, is being introduced into London; it is said to be prepared by precipitating the magnesia from the solution of its sulphate by means of pure potass and immediately drying it, by which process pure magnesia is procured by a shorter method than hitherto employed, and has the advantageous property of occupying much less space than magnesia in common use; it is at the same time more convenient, being without that exceeding lightness possessed by the old forms.—*Lond. Med. and Surg. Jour.*

New method of preserving Anatomical Preparations.—A cheap durable process, and one which clearly displays minute structure, has been published by Dr. Davy; it is simply sulphurious acid, which may be prepared in a manner equally economical and easy, by burning sulphur matches over water in any appropriate vessel, agitating the water when the match ceases to burn; when the water is sufficiently impregnated with the acid gas, it should be filtered, to render it clear and transparent. The best kind of match for this purpose is that which is used in Italy, made by dipping cotton-thread in melted sulphur.—*Ed. Med. Chir. Trans.* vol. iii.

Method of preventing the evaporation of Spirits.—A mode of preventing evaporation very applicable to anatomical preparations is simply to cover the surface with a stratum of oil of almonds.—*Lond. Med. Gazette.*

Solanam Dulcamara used externally.—The juice of the ripe berries of the solanum dulcamara, or woody nightshade, is said to possess much efficacy in cutaneous diseases of the scalp, such as the different forms of porrigo; it is used mixed with common white ointment, and applied night and morning.—*Lond. Med. and Surg. Jour.*

Hyosciamus Niger.—In the *Bulletin des Sciences Médicales* for July, are recorded some experiments made with the extract of hyosciamus, prepared from the young leaves, that is, from leaves of the first year, six grains of which in a dose produced no sensible effect in an adult; one grain of good extract will, in most cases, produce a decided effect: three or four grains will bring on very unpleasant sensations in the head, with dilatation of the pupil. We know that most of the extract sold in town is prepared from the young leaves, but as some is also prepared at the proper season from mature leaves, that is, in June, great inequality of power must exist in the preparations. The want of uniformity in preparations from indigenous medicines is as criminal as it easily rectified. A little attention to the natural history of the articles, and due care in the mode of preparation, would ensure accuracy any uniformity.—*Lond. Med. and Surg. Jour.*

Medicinal Properties of the Bark of the Root of Ricinus Communis.—The bark of the root of the ricinus communis is a powerful purgative, and in conjunction with chillies and tobacco leaves, it forms an excellent remedy for gripes in horses; it is thus used in the West Indies.—*Medical Botany.*

New Publications.

Essai sur les Fièvres, remittentes et intermittentes, des pays marécageux tempérés; par Frédérick Nepple, médecin de l'hopital de Montluel, etc. 8vo. pp. 307.

Recherches sur les différentes maladies qu'on appele fièvre jaune; par J. A. Rochoux. 8vo. pp. 637.

Sperimenti sui fascicoli del midollo spinale; by Rolando. Turin, 1828. pp. 68.

Mélanges de Médecine et de Chirurgie; par M. Mothe, ancien chirurgeon de l'hotel Dieu de Lyon, etc. Tome ii. 8vo. pp. 428.

Nouvelle methode naturelle chimique, ou disposition des corps simples, et composés, propre à rendre l'etude de cette science plus facile et plus courte. Par Ch. Pauquy, D.M.P.

De l'Anatomie Pathologique, considérée sons ses vrais rapports avec la science des maladies; par F. Ribes, D.M. etc.

Chemical Re-Agents, or Tests, and their Application. Originally by F. Accum. Improved by W. Maugham.

A Manual of Midwifery, &c. By Michael Ryan, M. D.

An Essay on a New Mode of Treatment for Diseased Joints and the Non-Union of Fracture. By Thomas Buchanan, A.M. &c.

Observations on the Nature and Treatment of Cholera. By A. T. Christie, M. D.

A General Description of the Bones of the Skeleton, intended for Students. By Henry Kemp Randell.

A Stethoscopic Chart, in which may be seen, at one View, the Application of Auscultation and Percussion to the Diagnosis of Thoracic Diseases, &c. &c. By S. E. Hopkins.

Literary Intelligence.

Dr. Richard Bright, of Guy's Hospital, has been for some time engaged in preparing for the press, a second volume of his Medical Reports.

Dr. Forster is Printing, at the Chelmsford Press, an Essay on some Remarkable Effects from Change of Air on the Intermittent Fever of that County; the result of many years' research.

THE

MONTHLY

JOURNAL OF FOREIGN MEDICINE.

MARCH, 1829.

From the London Medical Gazette.

ESSAYS ON SYPHILIS.—By JOHN BACOT, Lately Surgeon to the First Regiment of Guards.

(Continued from page 132.)

TREATMENT OF GONORRHŒA.

In detailing the treatment of gonorrhœa, I must observe, that what I have to say is intended to be applied to a case of severe gonorrhœa, accompanied with those unequivocal symptoms of high inflammatory action to which the term of syphilitic or venereal gonorrhœa is usually given; for you will find in practice patients with every gradation of discharge and irritation all under the same term gonorrhœa, though it is obvious that they cannot all demand the same treatment, either in kind or degree; and, therefore, after having explained to you what I conceive to be the safest practice in the most aggravated form of the complaint, a few words will suffice as to the cure of the milder species, which are, in point of number, compared with the former as five or six to one, or perhaps even more. Therefore when a patient comes before you, complaining of a purulent discharge from the urethra, attended with pain in making water, your first care would be to ascertain whether the disease is a fresh infection, or merely a return of a recently cured discharge; whether it is accompanied with any breach of surface or not; whether it proceeds from some one painful point of the urethra; in fact, from an enlarged and inflamed gland; or if the patient has any reason to suspect the existence of a stricture in the passage; for these inquiries will tend much to facilitate the cure, by enabling you to adapt your treatment to the many varying circumstances which you will meet with in different individuals.

Having made these inquiries, the next thing to be done is to examine the parts themselves; for you will generally find among the lower classes attempts made to deceive you as to their real condition; and even in those from whom more candour might be expected, I have known a syphilitic ulcer, or a bubo, in a state of suppuration, carefully concealed from the surgeon's knowledge for weeks.

The cure of gonorrhœa is to be undertaken upon the principle of subduing severe inflammatory action, reference being had to the nature and functions of the part affected. If the patient, as sometimes happens, suspects the probability of his having received the infection, and carefully watches his feelings, he is often enabled to notice the uneasy sensation at the orifice of the urethra, and a slight turgescence of the lips, for some hours before any increased secretion is discovered—sometimes even for a whole day previously. Should he in this condition apply for relief, it is more than probable that the use of an astringent injection, so as to produce some irritation of the internal membrane, will altogether supersede the disease. This I have effected in numerous instances, and with one precaution the practice is as safe as it is often efficacious. In those cases of incipient discharge, where there is no pain or scalding in making water, this plan may also be had recourse to, with the almost certain effect of suppressing the discharge often in 48 hours, or even less; but it must be remembered that, in either case, if the employment of the injection the first or second time produces great pain, and that the heat in making water is rendered much more severe, the injection must be directly abandoned, and we must substitute those means of cure which I am now about to state. For the purpose above mentioned, the forms of injection which I have found most effectual are, either a composition of sulphate of zinc to water, in the proportion of two grains to the ounce, or the sulphate of copper in a less proportion, about a grain to the ounce. Opium may be added to either of these prescriptions, and the vehicle may, if you please, be rose-water or camphorated mixture: the former is rather astringent and very grateful to the smell, making an excellent medium for the more potent ingredients, when you have to prescribe for a fine gentleman. For the above purpose, an injection of the lunar caustic, in the proportion of two grains to the ounce of water, or even more, has been strongly recommended, and it has no doubt often succeeded; but it cannot be used always with safety: there are some irritable habits in which it will act with great violence, and produce great mischief; and the possibility of such an event will, in many instances, forbid its use. It is, at least always right to explain to the patient the probability that this may be the case.

Either of these injections, used three or four times in the day, will usually put an end to the discharge in the space of a week or ten days, under the above mentioned circumstances. In these cases it is equally necessary to continue the injection for some days after the complaint has disappeared. I am now, however, about to suppose a case where the ardor urinæ is great, the erections frequent and painful, with chordee, and sympathetic pains in the loins, groins, and thighs; the discharge profuse and fœtid, and the general health somewhat affected. On the first approach of these symptoms, two entirely different plans have been recommended, and each have their advocates. The balsam of copaiba is relied upon by some practitioners, in very large doses, and success undoubtedly occasionally will attend its exhibition even in this stage of the disease; but my own experience does not enable me to commend it as a medicine in the first few days of a virulent gonorrhœa. Another medicine—the cubebs, or Java pepper—has lately been introduced to our notice, with the character of being nearly a specific in this disease. Mr. Jeffreys, who has the merit of introducing this remedy into general notice, observes that it is precisely in the inflammatory stage of gonorrhœa that he has found this medicine of the greatest use. He prescribes it frequently in doses of a drachm and a half, four times a day; and he is of opinion that, where it is productive of benefit, the symptoms are visibly mitigated within forty-eight hours; and if it makes no impression in five or six days he does not recommend it to be persevered in. In the dose above mentioned it frequently acts upon the bowels as well as the kidneys, producing an increased flow of urine, to which it also imparts an aromatic smell. The cubebs is a remedy long known and employed in India for this complaint. Mr. Jeffreys believes that where the cubebs has been employed gleet does not so often follow as in the more usual mode of treatment; nor is there any objection to combining it with nitre. Rest and temperance are equally necessary to be observed. Such are the principal remarks which usher in the cases Mr. Jeffreys has detailed, and which amount to twenty-seven; and out of this number there are but few failures; and yet we cannot but observe that the detail of these cases does not altogether support the opinions above advanced, as to its chief utility being exhibited during the inflammatory stage of the disease; for in a majority of the cases the disease had subsisted two or three weeks, or more. To this favourable account of cubebs, Mr. Broughton has added the result of his experience, having employed it in fifty cases, in forty-one of which it was entirely successful. He considers it perfectly safe in the worst stage of the severest gonorrhœa; indeed it is precisely in these cases that he expects the greatest benefit from its employment, and he agrees with Mr. Jeffreys in thinking, that unless it acts beneficially in three or four days, it should be superseded by some other remedy. Upon this statement I shall only remark that, in the account of those cured, it appears that the majority of these cases required three weeks for their cure; that in some, injections were also employed; and that out of the fifty cases it failed totally in three, five were only relieved, and one relapsed; whilst of the forty-one actually cured, two had swellings of the testicle; so that I should not, at any rate, place this medicine higher in rank as a remedy in gonorrhœa, than other plans of treatment.

I am sorry, however, to say that my own observation does not enable me to confirm the above account, though I admit that, in certain cases, I have derived the most marked benefits from its use. Nevertheless, in some very severe cases of gonorrhœa, I have seen great mischief induced where the patient had had recourse to the cubebs without consulting his surgeon; such as inflammation, extending along the urethra to the neck of the bladder, bloody urine, and great symptomatic fever. It may, indeed, be said that the cubebs did not produce these symptoms, and such may be the fact; but it at least proves that the remedy exercised no control over the disease: however, I believe, when the symptoms are mild, the cubebs may be safely given, even from the commencement, in doses of from a drachm to a drachm and half of the powder three times in the day. I shall have occasion to return to the employment of this remedy presently. Having thus told you what I should not do when called upon to treat an aggravated case of gonorrhœa, I must now tell you what I would do. In the first place, I consider rest absolutely necessary, and I would therefore confine my patient to the sofa. General bleeding is, I conceive, but rarely indicated, but it is occasionally necessary to take away blood locally: leeches are usually employed for this purpose, but cupping from the perinæum is much more efficacious, where an expert operator can be obtained, for the leeches are often apt to produce irritation of the skin, and I have, upon many occasions, seen an œdema of the prepuce, and consequent phymosis to a very considerable extent, caused by their application. This is a very troublesome event, and often gives the patient much uneasiness. Gonorrhœa is a complaint in which free purging is inadmissible; and we often meet with instances where much irritation has been produced by the patient's taking repeated doses of physic unadvisedly, with the hope of purging off the disease. All the good to be derived from this class of medicine is obtained when the bowels are kept in rather a lax condition, and that evacuations are not productive of straining, or performed with effort; beyond that, their operation is worse than useless. If the penis is swollen, and almost perpetually in a state of half erection, a cloth dipped in a cold saturnine lotion may be wrapped round it with advantage. The patient's diet should be light: meat, wine, and fermented liquors, should be prohibited, and a free dilution with barley-water, in which the gum acacia is dissolved, will form the most appropriate drink; for the ease with which the urine is voided will much depend upon its dilution, and something perhaps upon the demulcent nature of the vegetable mucilage employed. When chordee is a troublesome symptom, the best remedy is the internal exhibition of camphor with opium: one grain of this latter, with six or eight grains of camphor, in the form of two pills, taken at bed-time, will generally control this painful condition. Where opium in the solid form disagrees, Battley's sedative solution will usually act extremely well, procuring rest without producing the headach and other unpleasant feelings, which the usual preparations of opium will sometimes excite. A poultice made with bread-crumbs and camphorated julep may also be applied to the perinæum, or that part may be smeared with a liniment or ointment, composed of camphor and any simple ingredient. If, in the course of four or five days, this method of treatment succeeds in allaying the most urgent symptoms, I then am in the habit of commencing with the balsam of copaiba, or the cubebs. The former medicine may be given either dropped upon water or combined with mucilage, in the form of a mixture: I am inclined to think the latter form to be preferable. In either case, this medicine frequently, I believe, fails of its effect, in consequence of being administered in doses too small: it is proper to begin with from forty drops to a drachm; and this may be repeated twice or three times a day, unless it induces purging, which it occasionally does. If the cubebs be preferred, the dose is from a drachm to a drachm and half three times in the day. At this period also I am in the habit of prescribing a weak injection of the liq. plumbi acetatis and distilled water, in the proportion of twenty or thirty drops of the former to four ounces of the latter; and as the symptoms give way, the patient may be permitted to relax from the rigid rules both of rest and diet to which he has hitherto been restricted. As soon as the tenderness of the urethra has so far subsided as to admit of a more powerful remedy, the injection with the acetate of zinc may be ordered: it should at first be used two or three times a-day, and afterwads five or six times; it should be composed of about six grains of the sulphate of zinc to thirty minims of the liq. plumbi, to ℥iv. of rose water; and it is better not to strain it, for the sediment (sulphate of lead) which it contains seems in some way or other to be beneficial, and not, as might have been inferred, to provoke any irritation in the passage. By the use of these means, the symptoms will usually give way in the space of two or three weeks even in severe cases; the discharge becomes thicker, smaller in quantity, and at length amounts only to an oozing in the morning, attended with a mixture of glairy fluid, which consolidates the orifice of the urethra, and is, in fact, its natural mucus, merely increased in quantity. In this stage the use of the copaiba may be gradually abandoned; the injections may be increased in strength; exercise in moderation, together with good but not stimulating diet; the cold bath, and other means that tend to give general tone to the system, will effect a cure. There are, however, several untoward circumstances apt to rise in the progress of these cases: the first which I shall mention is a continuance of the scalding when every other symptom has given way. I have seen this amount to a very serious evil, and have frequently witnessed the difficulty attending its removal. I think the use of muriatic acid, four drops to four ounces of water, used as an injection, has succeeded better than any other remedy, either external or internal, that I am acquainted with, in controlling this affection. When inflammation extends along the urethra, and reaches the neck of the bladder, the case requires energetic and prompt treatment: general bleeding, the warm bath, a rigid diet, and confinement to bed, can alone mitigate the symptoms; and here the after employment of opium is of the most decided advantage, and it rarely happens that any serious consequences ensue where early attention is paid, for there is no obscurity in this stage of the complaint; the cause of the evil is apparent, and the line of practice to be adopted is no less so.

Phymosis is not usually a symptom of much consequence in gonorrhœa, and generally gives way with the inflammatory symptoms: cleanliness alone will be necessary, and the injection of any mild liquid between the prepuce and glans, to wash away the discharge afforded by the sebaceous glands. There is, however, a much more troublesome attendant on this disease, which is the reverse of the former—I mean a paraphymosis, which occurs in those who have short prepuces, in consequence of its slipping behind the glans; in which situation it becomes swollen, and makes a stricture round the glans, causing great pain, and sometimes a sloughing of the part. This symptom, however, is easily remedied if the patient mentions it sufficiently early. The prepuce may be replaced by the hand: the surgeon should grasp the swollen part with the fore and middle fingers of each hand, first having applied some oil to it; he is then to press the glans penis backwards with his thumb, whilst, at the same time, he draws the prepuce forcibly forward. Some surgeons recommend the previous application of a cold lotion to the glans to lessen its volume, but I think there is more lost by the delay than gained by the evaporation.

The pain produced by this effort is occasionally very great, but I scarcely ever saw it fail, and the moment the return of the prepuce is accomplished, the pain and swelling subside, and little more than rest and a cold lotion are requisite to restore the part to a healthy condition. If, however, the paraphymosis resists this attempt, or it has existed too long to permit it to be made with any prospect of success, the stricture should be freely divided with a scalpel, by which means the danger of strangulation upon the glans will be avoided, and the inflammatory symptom will be removed. Occasionally, suppuration will take place in the mucous glands of the urethra, the result of which is the formation of hard troublesome knots in the course of the urethra, producing an irregularity in the stream of urine, and a painful sensation of tightness upon erection: these indurated spots are sometimes difficult to remove; the use of the mercurial ointment, with camphor, will occasionally produce a good effect, and time, together with the natural employment of the part, will effect their removal. When suppuration of Cowper's glands occur, poultices must be had recourse to, and an early evacuation of the matter will be desirable. The wound will readily heal under the use of cataplasms. It very frequently happens that, in consequence of exposure to cold, or from a too early or immoderate use of exercise, or even from an employment of injections, and indeed sometimes without any assignable cause, one of the testicles swells: this is generally the left. The symptoms of this affection I have already detailed. In this case, blood must be drawn either generally or locally, depending upon the severity of the attack: if the application of leeches should be preferred, it will be better to apply a considerable number at once, rather than to be under the necessity of repeating them; patients, especially in the better classes of life, having generally much repugnance to their use, in consequence of the trouble they occasion, and the length of time consumed in the operation. The best application, in my opinion, after the leeches have performed their office, is a warm bread and milk poultice: it generally affords great relief by its mild warmth; and, in common cases, a dose of opening medicine, in combination with the above measures, together with rigorous diet and absolute rest, will most frequently remove the painful symptoms. As the testicle subsides, however, the discharge, which is entirely, or almost entirely, suppressed during the continuance of the inflammation of the testicle, re-appears; and we must be careful, in this condition of the parts, not to interfere by means of injection, or this symptom will be reproduced. Neither will it be right to permit exercise to be taken too soon, nor the diet to be suddenly relaxed; for in some constitutions the disposition to relapse is very great. When, after the employment of free bleeding, the inflammatory symptoms of swelled testicle still continue to linger, the tartar emetic will be found an excellent remedy. Dr. Balfour, of Edinburgh, first pointed out to the profession the powers of this preparation of antimony in controlling inflammatory action; and subsequent experience has fully confirmed the account which he published. Not only is this fact acknowledged in this country, but on the continent. Its employment may be said to form an era in the history of medicine in Italy at least: there it has been given in inflammations of the viscera, especially the pulmonic, in doses of which we have no example in this country, and its success has been said to have been remarkable. My only business, however, is with its application in the case under consideration.

Mr. Jeffreys has related several cases where he has used this remedy with decided success, and as his observations coincide entirely with my own, I shall relate to you what he has said upon this subject. The mode of administering the tartar emetic is in a mixture containing two, three, or four grains, dissolved, with the addition of an ounce of Epsom salts, in six or eight ounces of water: of this mixture, the patient is directed to take two or three table-spoonsful every half hour, or oftener, until vomiting is excited; after which the dose is repeated at intervals of three, four, or six hours, according to circumstances. Exhibited in this manner, this medicine appears to exercise a very powerful influence over the arterial system, restraining its action and diminishing its vigour in a manner and with a rapidity that is possessed by few other remedies. My own plan in treating the swelled testicle is always to make use of the common means of lowering arterial action, by bleeding, or leeches, in the first instance; and if, after the lapse of a few hours, the symptoms do not yield, or begin to re-appear, I have recourse to the mixture above mentioned; and I have generally found that, when vomiting has been fairly excited, the effects have corresponded with the description which Mr. Jeffreys has given.

It may be remembered that the older authors have long recognised the advantages of emetics given in the subsidence of the inflammatory stage of the swelled testicle, with the intention of diminishing the size of the glands, which is apt to remain in a state of enlargement and induration for a long time after the pain has subsided. During the whole of this painful disease the patient should remain in a recumbent position, and the testicle should be well supported by a bag truss, or a handkerchief, if a poultice is applied; which I have always found more useful, as well as more comfortable to the feelings of the patient, than cold lotions, which many surgeons are, however, in the habit of employing. I direct the poultice to be made of linseed meal and water, and renewed every five or six hours. The bag truss must continue to be worn after the inflammation has subsided, and until the testicle has resumed its former size. The remaining hardness of the epidydimis, and the enlargement of the testicle itself, often demand our attention. The patient will not always be satisfied with our assurance that all will come right in the course of time, and therefore we must employ medical means: the mercurial ointment, with camphor, smeared upon a piece of flannel, and worn in contact with the scrotum, will generally produce a diminution of the swelling; and the blue pill, in five grain doses at night, contributes also greatly to this effect. This is not given with the view of its exercising any specific power over the disease, but as an alterative; in the same manner and with the same view with which it is prescribed in other glandular enlargements. This leads me to the question of the employment of mercury in gonorrhœa; a question, indeed, it scarcely deserves to be called, for it would evidently be absurd to prescribe it during the inflammatory stage of the complaint. It exercises no control over any of the symptoms, and it would be worse than needless to subject the patient to a course of this medicine merely to avert secondary symptoms, which, in all probability, will not occur. Nevertheless, towards the conclusion of very severe cases of gonorrhœa in both sexes, I have thought that alterative doses of mercury, either in the form of the blue pill or of the compound calomel pill of the present pharmacopœia, have been productive of advantage.

Another consequence of virulent gonorrhœa is still to be mentioned—inflammation of the prostate gland. It sometimes happens that when the discharge has nearly subsided, the ardor urinæ and chordee have passed away; that a dull uneasy sensation continues to be felt low down in the perinæum, near the anus; that the stream of water is impeded, and the power of retaining it as heretofore is much diminished. This occasionally proceeds from chronic inflammation of the prostate gland, and is often met with in union with increased irritability of the bladder, so that the urine is retained with difficulty, and the bladder is called upon to empty itself more frequently than ordinary. Examination with a catheter in these cases will not detect any obstruction in the urethra until it reaches the prostatic portion, when a difficulty is experienced in pushing on the instrument into the bladder. In this condition I have found a blister applied to the perinæum exceedingly useful. The internal exhibition of cicuta also is very proper, commencing with a dose of the extract of five grains, and repeating it three times in the day. The dose of this medicine may, after a little time, be carried to a greater extent, watching its effects upon the head and stomach. These remedies, in combination with the warm salt-water bath, used three times in the week, will ususally remove this unpleasant symptom.

Such is the outline of the treatment generally adopted in the severe forms of gonorrhœa. The number of receipts to be found in authors for the injections which I have spoken of in the latter period of the complaint, is very great: each writer seems to have chosen some favourite remedy. For my own part, I have usually relied upon the sulphate or acetate of zinc, or the sulphate of copper. The corrosive sublimate, in the proportion of a grain to half a pint of fluid, has had many advocates: I consider it by far the most uncertain in its operation of any I am acquainted with; and not only is it uncertain, but very apt, in many constitutions, to produce very serious irritation. The injection of calomel mixed with mucilage, also, I cannot commend; and I am inclined to believe that both these forms of prescription have been adopted from false views—that is, with the intention of combating the venereal infection.

I shall, however, enumerate in this place two or three forms of injection against which this objection does not hold good, that you may not be at a loss should you find it necessary to vary these remedies. The first I shall mention is the favourite receipt of Mr. Foot: it is composed of twenty drops of the liquor cupri ammoniati, mixed with four ounces of rose-water. The liq. cupri ammoniati is made, first, by pouring a solution of the subcarbonate of potash upon the sulphate of copper, by which means the copper is precipitated; and when dried, one drachm of it is to be dissolved in two ounces of the liquor ammoniæ. A second astringent injection is prepared by dissolving four grains of sulphate of alumina in four ounces of water. A third is thus prepared: six grains of sulphate of copper are to be dissolved in four ounces of water, to which twenty minims of the liq. plumbi acetatis may be added. It must be recollected that all these injections require to be increased in strength or not, according to the peculiar circumstances of each case; for you will scarcely find any number of individuals who will bear the same proportions.

I have yet a word more to say upon the subject of injections: you will find many surgeons objecting to their employment, and condemning them as productive of stricture and other diseased conditions of the urethra; but these are groundless apprehensions. It is not to the use of injections that such results are attributable, but to the long continuance of uncontrolled inflammatory action; and therefore it is, that wherever many severe claps have been experienced, you generally find, without reference to the employment of injections, that some affection of the urinary canal becomes established.

But you will often meet with two different conditions of the urethra in practice which will give you much trouble; the first is, where a severe gonorrhœa has been so far cured that only a few drops of discharge shall remain; these are mixed up, and diluted, as it were, with the glairy transparent mucus of the urethra, but still they have the character of true gonorrhœal discharge, and give great uneasiness to your patient, because he cannot, under these circumstances, return to his usual avocations and pleasures; and above all, he will perpetually tease you to permit him to indulge in sexual intercourse, and expects that you should warrant him as incapable of transmitting infection: this you cannot do. Notwithstanding the high authority of Mr. Hunter, I have no hesitation in declaring my belief, that as long as this purulent looking discharge is detectable, there is danger of infection. If the discharge is only in very small quantity, a drop or two for instance, there may be little danger; but still you cannot, with any regard to your patient's safety, or to your own reputation, sanction such a proceeding. This is one of the difficulties you will meet with: the other is this—it shall frequently happen that a man who has for months, perhaps, got rid of a troublesome gonorrhœa, has, upon every fresh connexion, a return of discharge, without scalding, perhaps, or at least without much uneasiness in passing the urine; this is controlled in a few days by an injection, but upon taking severe exercise, drinking more than an ordinary quantity of wine, and more particularly, as I before said, after connexion, it returns, and the patient and the surgeon will continue thus to be plagued until the patience of one or the other is exhausted. In the first of these difficulties, I should advise an examination of the state of the urethra by a metallic instrument, of a size sufficient to fill the canal completely, without, however, putting it too much upon the stretch. It will often be found that a considerable degree of irritability exists throughout the whole urethra, but more especially about the membranous portion, so that the instrument shall meet with considerable opposition at that spot; which, however, with a little management, is overcome. When this condition of the passage is found to exist, the introduction of the metallic bougie two, or at the utmost three times a week, will often completely remove the remaining symptoms; and the discharge, which, for a day or two is increased by the use of the instrument, will cease altogether. But it sometimes happens that this remedy fails entirely; and if the state of the canal does not indicate any morbid sensibility, or unusual degree of spasm, I should have but little reliance upon it. If the patient has been much reduced by the previous symptoms, or by confinement, I have known the internal administration of bark, or other tonics, more especially the sulphate of zinc, combined with sea-bathing, effect the cure; and, occasionally, the discharge has suddenly ceased when all remedies have been abandoned.

I have in these directions anticipated all that I should have to say respecting the treatment of a gleet, for this name has been usually given by authors to the condition I have just described. I am, however, in the habit of restricting the term gleet to a discharge of the natural mucus of the urethra in a superabundant quantity, which is frequently one of the concomitants of a general relaxation of the parts, either in consequence of excessive venereal indulgence, or from the effect of a certain destructive habit too common at schools and public institutions, the scourge of youth and the fruitful harvest of the designing quack. In the latter case which I have mentioned, the discharge will be found to be always in connexion with a morbid condition of the urethra, which has been known by the very improper name of spasmodic stricture; in fact, no stricture exists, but there will be found to be one or two irritable spots in the canal, which resist the introduction of the catheter, and are certainly curable by the use of metallic instruments. I say metallic instruments, because in these cases I have invariably found the common bougie inapplicable; it often refuses to enter the bladder when the metallic instrument will pass with comparative ease; and I never should conceive myself justified in pronouncing upon the nature of the case until an examination had been made with this latter instrument. The disease, in these cases, appears to consist in a thickening of the internal membrane of the urethra, the consequence of previous chronic inflammation; and by gradually and regularly dilating it to as far as the natural diameter of the canal will admit, the healthy actions of the part are restored, and the discharge ceases entirely under the employment of the instrument. It is not necessary to introduce it more than three times in the week, and I am accustomed to let it remain in the bladder a short time; not, however, long enough to induce pain, or even uneasiness. In this place I consider it proper to advert to a modern custom, but which I conceive to be very bad practice; I mean the introduction of very large instruments. I have seen some of a size totally out of proportion to the diameter of any urethra I ever had occasion to examine; in fact, you will find the greatest difference in different men in this respect; and I should no more think of employing the same sized bougie for every individual, than I should expect the same bag-truss to fit every man's scrotum. To some men the instrument No. 8 will be of a maximum size, whilst others will readily admit No. 14. It is, I think, important to bear this in mind; and I have seen many instances where a neglect of this precaution has produced severe inconvenience.

I have now spoken of the usual local sequelæ of gonorrhœa. The subject of permanent stricture would, I conceive, lead me too much out of my road; and as it is not in immediate connexion with gonorrhœa, I shall proceed now to consider the symptoms and treatment of that disease in the female. Gonorrhœa in woman is a much more simple disease than in man. The natural functions and structure of the parts explain this difference; they are much less complex, and though the symptoms are occasionally severe, they neither last so long nor do they leave behind them so many unpleasant affections. There is, however, one source of difficulty attending this disease in the female; that is, the difficulty of deciding when she has the disease, and still more so when it is cured. In both cases, if the woman has an intention to deceive, it is far from easy to come to a decision on either of these points; that is to say, after the first few days have elapsed; for in the commencement there will be usually much itching and titilation of the orifice of the urethra, together with some swelling of the labia and nymphæ; and the parts will appear more red and injected than in a state of health. Pain in making water is an accompanying symptom; and this appears to arise from inflammation extending to the orifice of the urethra; which, in some severe cases, extends along that canal. The water passing over the inflamed surface of the vestibulum and nymphæ, also increases this painful sensation. Excoriations, or very minute apthous ulcerations, are also very apt to attend a severe attack of this disease in the female. Enlargement of the inguinal glands is also a very common attendant; but these very seldom proceed to suppuration, nor do they require any particular treatment. Where the discharge is very profuse, and the woman delicate, pains in the loins, hips, and pubic region, are very common and troublesome symptoms; and, as in the male sex, the constitution sometimes sympathises in the attack, and fever is present. The various discharges from the pudenda to which women are liable, render it extremely difficult to decide upon the nature of the complaint. Moral evidence will sometimes be necessary to guide our judgment; for the mere circumstance of infection following a connexion is by no means a conclusive proof of the disease having had a venereal origin. As far as practice is concerned, it is not, perhaps, a matter of much moment to decide this point; for we do not now think it requisite to put our patient through a mercurial course, when we know the disease to have been received from a diseased man: but it is often our lot to be called upon to decide upon cases where the happiness or misery of an individual, and the honour of a family is, perhaps, concerned; and we cannot, therefore, be too cautious in pronouncing an opinion. Generally speaking, in cases of leucorrhœa and fluor albus, the heat in making water, if it exist at all, is very slight; and it is certainly not usual for infection to be communicated by connexion; though if the discharge be profuse, the possibility of such an occurrence cannot be denied. The whole appearance of the woman also will frequently denote great debility. In addition to the discharge, she will complain of pains in the loins and thighs; great weariness, or incapacity to take exercise; and frequently a difficult or irregular state of menstruation.

With respect to the cessation of the disease we are still more liable to be imposed upon; for if the female is of clean habits, and more especially if she is aware that inspection is intended, it will be impossible to detect any marks of the disease; and, therefore, we must form our opinion from other circumstances, or arrive at the truth by cross examination and finesse.

The cure of these symptoms is usually much less difficult than in the male sex. Rest, and the recumbent position, will be equally necessary in the first days of the complaint, but injections may be used much earlier and much stronger than in the male sex. Those composed of the acetate of zinc appear to be among the most efficacious. The syringe employed should have a curved neck and be capable of holding a considerable quantity. It is also necessary to continue their use for some time after the cessation of the discharge. If the pain in making water increases very materially, and the parts are very hot and tumid, it may be necessary to abstract occasionally blood, to foment the pudenda with decoction of poppies, and to administer antimonials and opium at night. A suppuration has occasionally taken place in one of the labia: this is to be treated by fomentation and poultice. The matter should then be discharged, and there will be no difficulty attending the healing of this part. In this case it is hardly necessary to say that all injections should be omitted until these symptoms are mitigated. To relieve the pain in making water, nitre and gum acacia may be prescribed with advantage, as in the other sex. Among the best injections which you will find mentioned in authors, is that composed of two drachms of the sulphate of zinc to four scruples of acetate of lead, mixed with a quart of water. Other forms, however, such as the sulphate of alumina dissolved in water, are occasionally necessary; and they require to be now and then changed, for they appear, after some time, to lose their power. If the discharge continues in spite of these remedies, and the patient feels debilitated by its continuance, bark, steel, and sea-bathing, will be found to contribute materially to the completion of the cure.

Such are the principal points to be attended to in the treatment of the gonorrhœa in both sexes; yet, after all, under every mode of treatment, and with every possible care and attention, both on your part and that of your patient, gonorrhœa is a most troublesome and perplexing disease in some individuals; and you will be often called upon to exercise your ingenuity, as well as your patience, in combating all the untoward events that obstruct the completion of the cure. Hence it is that new remedies are so perpetually sought for, each of which is hailed for a time as a panacea; but which, failing to exert its virtues upon some few occasions, at length shares the fate of those which have preceded it. This is beginning to be the lot of the cubebs; it has now sunk at least to a level with the copaiba; and, probably, has not yet reached its ultimate point of depression. I would, however, have you estimate that, and all the other medicines which have been so much vaunted, fairly and soberly. The disease you have to contend with is an inflammation of a mucous membrane, in a part whose structure and uses are complicated; and which must be used several times in the day. You must separate in the symptoms what is accidental from what is essential; you may attempt to supersede the disease, in the first instance, in the manner I have described. If this is in vain, you must treat it upon the common principles of inflammation; and afterwards get rid of the discharge by astringent injections; by terebenthinate preparations; by attending to the general health, and all other means applicable to the peculiar condition of the diseased action that has become established, reference being always had to the structure and double functions of the part. I shall now proceed with a description of the general symptoms which sometimes are found to result from this disease.

I have already mentioned the mode of treatment which I have always found most effectual in the aggravated form of gonorrhœa, both in the male and female; together with those immediate consequences which ensue in the progress of the disease. A few words still remain to be said relative to the milder forms of this discharge, and which are by far the most commonly met with. If, then, the patient complains only of a slight pain in making water, the inflammation of the orifice of the urethra is but trifling, and there are no nocturnal painful erections or chordee, there is nothing to prevent our having recourse to the exhibition of the cubebs, or copaiba, at once, and combining with it the use of one of the milder forms of injection which I have before mentioned; gradually increasing the strength as the tenderness of the passage will permit. Thus, in common cases, the patient will be cured in two or three weeks; but should he find that the discharge perpetually returns on sexual indulgence, or from taking too much exercise, or a more generous diet, then be sure there is a state of the passage existing which must be restored to a healthy condition before the cure can be considered as permanent. The mode of effecting this I have already mentioned, and it only remains to remark that you will find cases related in books where men constantly become subject to discharge from connexion with some one particular woman, though she be not apparently diseased. Mr. Hunter relates an instance of this sort, where a gentleman renewed his acquaintance with a female who was actually two years resident in the Magdalen Asylum. He waited for her dismissal, slept with her that night, and had a purulent discharge in consequence. Now, if such a case were to occur in my practice, I should not be satisfied without an examination of the condition of the urethra after the patient was apparently well of the discharge, for in all probability there is some lurking disease at the bottom of this; and if so, you will not be able to cure your patient permanently without the assistance of the metallic bougie.

The diseases which next claim our attention, generally speaking, are the remoter consequences of gonorrhœa. They are, indeed, of rare occurrence; but, nevertheless, both on account of their severity as well as obstinacy, they merit a share of our attention. How it happens I know not, but, with the exception of the first which I shall mention—the gonorrhœal ophthalmia, they are little known, or at least we find but slight mention of them in authors. Whether it be, as some have conjectured, that the exhibition of powerful repellent applications or medicines have made them more common than heretofore, I cannot pretend to say; but certain it is, that neither the gonorrhœal rheumatism, nor the eruption of papulæ, nor ulcerations of the palate and throat, are mentioned by any of the standard writers on syphilitic complaints, unless we except Swediaur, who says a few words on the rheumatism of the knee succeeding to a gonorrhœal discharge. Yet nothing can be more certain than that such complaints do exist as the consequence of that disease; and I shall proceed to relate what I have been able to collect upon this obscure subject from my own experience, as well as from that which has been related to me by others. I shall commence with gonorrhœal ophthalmia; and a more severe, painful, and generally destructive disease does not exist within the catalogue of human affections.

This species of opthalmia has been falsely supposed only to have been lately recognised, but it was described accurately by St. Yoes, in the year 1702; and the indefatigable Astruc has devoted a chapter to this affection, which he ascribes to error in diet, to immoderate exercise, to hypercatharsis, or any other means by which the gonorrhœal discharge is suddenly suppressed; in fact, he only admits it as proceeding from metastasis. I have already, more than once, objected to this word. It is an easy mode of escaping a difficulty by substituting one term for another; but we do not explain the mode in which this translation of disease is performed by the change. If mere suppression of a gonorrhœal discharge could alone cause the attack of this form of ophthalmia, instead of being very rare it ought to be an every-day occurrence; therefore something more than suppression must be concerned in its production. As to metastasis, which is in other language a translation, it only records the fact, and conceals our ignorance of its cause under a sounding name.

Recent observers have, however, been induced to believe, that, independently of this cause, it may be produced by actual contact of gonorrhœal matter to the eye; and Jesse Foot engages in a long, and, I think, very needless discussion, to show, that although the inoculation, or introduction of this matter can, and does occasionally, give rise to the disease, that the patient cannot infect himself from his own gonorrhœa; for, he says, if this were the case, scarcely any man or woman having that disease could possibly escape the ophthalmia here described. He therefore infers that it never takes place unless the matter introduced be that derived from another subject. I am much inclined to believe in this explanation, which is viewed in the same light by Dr. Vetch. In three cases which I have seen, the disease was decidedly traceable to this cause; two of the patients were washer-women, and both distinctly pointed out to me the origin of their sufferings. Thus, then, we have two sources from whence this disease may originate clearly made out. With regard to the severity of the symptoms, and the danger attending them, observe what Astruc says. "Inde pronum est colligere," (he has previously described the disease,) "cur morbus ille adeo preceps sit et stadia sua tam celeriter percurrat, ut brevissimo temporis intervallo, invadit, invalescat, oculo labem intentet, certamque perniciem inferat." In these expressions he is fully borne out by the testimony of every surgeon who has mentioned this subject since his time: yet so much has this disease been overlooked, that some of those who have expressly written upon gonorrhœa have omitted to notice it. And when first I heard a fatal case of this affection mentioned by a celebrated surgeon of the present day, few of those who heard him seemed to be at all aware of the existence of such a complaint. The attack of gonorrhœal ophthalmia is generally very sudden. It is most usual for one eye to be attacked, but occasionally both become seats of the disease. In this case there will be generally, not always, a suppression of the discharge from the urethra, entirely, or nearly so. Where one eye only is inflamed, I should be more inclined to suspect the introduction of the gonorrhœal discharge; though in one of the cases which fell within my observation both eyes were affected from this cause. But I cannot agree with Scarpa, who, whilst he admits the occasional origin of the disease from the contact of matter, believes that such cases are milder than those which originate in sudden suppression of the discharge. This is contradicted by my own experience, as well as by that of others in this country; and Delpech, of Montpellier in his Clinique Chirurgicale, relates an excellent case in confirmation of the view I have taken. The ophthalmia was, in that instance, occasioned by a young woman washing her eye with a sponge which had been employed by a person labouring under gonorrhœa for the purpose of wiping away the discharge. The destruction of the eye ensued in this instance.

The conjunctival membrane is the original seat of the disease, which becomes red and swollen to a great degree, and with a rapidity which has no parallel in any other inflamed condition of this organ. The cornea quickly becomes the seat of inflammation; a profuse purulent discharge takes place from within both the upper and lower palpebræ; the vessels of the transparent cornea become injected with red blood; and complete chemosis ensues often in forty-eight hours, or even less. The rapid growth of fungus from the conjunctivæ is sometimes truly astonishing, everting both the lids; and the discharge is profuse beyond what could be conceived, either from the space that affords it, or the time in which the disease runs its course. The pain attending it is extreme; the symptoms of constitutional disturbance very severe; and the inflammatory action is often communicated to the interior of the eye, producing a sudden effusion of lymph into the anterior chamber; a protrusion, and sometimes even a bursting of the cornea itself. Such is the course of this terrible disease when left to pursue its own course; and I am sorry to add, that such is also too frequently its termination under every circumstance. Nevertheless, I would not, by so saying, have you to believe that art is here of no avail, and that we have it not in our power to oppose resistance to this formidable enemy; on the contrary, there is no case in which our zeal, attention, and decision, are more necessary. There are cases which defy all the usual etiquettes of regular and ceremonious visits. If we wish to save our patient from the destruction of his vision, we must scarcely depart from his bed side until the inflammatory symptoms are controlled. The lancet must be hardly ever out of our reach, for if ever there was a disease in which blood may be taken away without measure, it is this. This, perhaps, may be thought to be strong language, neither will I insist upon such vigorous measures being always necessary; but what I have actually witnessed of the disease fully warrants me in drawing particular attention to it; for I am confident, that whenever it may be your fate to meet with a case of this kind, you would have, from fatal experience, great cause to reproach me if I did not direct your especial attention to it; and having once done so, I must leave it to your own good sense and discretion to discriminate the shades and varieties, and the modifications in practice which they will necessarily demand. We find described in authors two methods of remedying this terrible malady; the first, which consists in restoring, or endeavouring to restore, the suppressed discharge by the use of bougies, cannot obviously be had recourse to on all occasions; because, though we may suspect, we cannot always positively know the source of the disease, neither is it applicable to the case of females; and besides this, the very time consumed in this endeavour is too precious to be lost. It must also be recollected that this proposition can only be applicable to those cases in which the discharge has been suddenly suppressed; for it would be evidently useless where the patient is suffering simply from inoculation of the gonorrhœal matter; and, therefore, if I was disposed to make the attempt, I should only do so in conjunction with those general remedies more immediataly indicated by the condition of the eye itself. The restoration of the gonorrhœal discharge certainly can do no harm, and may eventually be of service; but I should not expect that, even were I successful in re-establishing it, the inflammation of the eye would cease all at once, or that I should be released from anxiety concerning its result.

However, it must not be forgotten that Swediaur considers the restoration of the discharge from the urethra as one of the principal means from which he should expect relief in such an ophthalmia. Our chief reliance, therefore, in these cases, must be upon the abstraction of blood, not locally but generally: it must be carried to the extent of inducing a state of collapse, and maintaining this condition for some time. In addition to the abstraction of blood, the use of the tartar emetic, in nauseating doses, combined with the Epsom salt, in the form which I have already recommended in the inflammation of the testicle, will be found highly beneficial. The poppy fomentation applied to the eye, taking care to wash away industriously the matter as fast as it is secreted, forms, perhaps, one of the mildest and most soothing local remedies we have. Nor must we forget the great benefit derived from large blisters applied between the shoulders, or even a mustard cataplasm, which will effect the purpose of counter irritation in a very short space of time—ten minutes or a quarter of an hour being quite as long as it ought to be kept on. Swediaur strongly advocates the propriety of making an opening in the cornea in this condition of the eye. It has been subsequently recommended, in very strong terms, by Mr. Wardrop; and may occasionally be useful in diminishing the tension of the parts, by discharging the aqueous humour.

With respect to the exhibition of mercury, so much recommended by Astruc, Swediaur, and others, I have great doubts. In the first place it must not precede the evacuation of blood, neither can it supersede the continued use of the lancet, as in the case of iritis. Too much time, also, is in general demanded for the production of its specific effects to permit us to hope much from its employment in so acute an attack. Nevertheless, where all other means are attended to, I see no objection to its exhibition in the form of blue pill or calomel, guarded with opium, so as not to act merely as a purgative. I have known instances where two grains of calomel have been taken every two hours, and the mouth has become decidedly affected within the twenty-four hours. If, by the vigorous employment of these means, we are fortunate enough to find that the pain is sensibly diminished, the organization of the cornea not having been destroyed, (although, in the most successful cases, I have known partial effusions of lymph either in the anterior chamber of the eye or between the lamina of the cornea,) much will still remain to be done. The formation of the fungus upon the conjunctiva, together with the chronic discharge of matter, will demand our attention; but as these sequelæ of the disease differ in no respect from those which accompany other forms of conjunctival ophthalmia, I may be excused from entering into the further treatment of a disease which does not form part of my subject. In detailing the line of conduct to be adopted, I have omitted to mention a word of diet; after what I have said, however, such an omission can scarcely be of consequence. It must be antiphlogistic in the strict sense of the word. I must not, in this place, omit to notice a new method of treating acute conjunctival ophthalmia, which has recently been adopted in the army. The plan, I believe, originated with Dr. Ridgway, and has been practised at the military hospital at Chatham with the greatest success, as is related by Mr. Melin, the staff-surgeon in charge of the ophthalmic patients at that place. The application of a solution of lunar caustic, for the purpose of destroying the granulated surfaces of the conjunctival membrane, the consequence of previous inflammation, has long been advantageously practised; but it is only of late years that we have been told that a solution of argentum nitratum, in the proportion of ten grains to the ounce of water, and sometimes even much stronger, may be dropped into the eye in the commencement of the severest attack of conjunctival ophthalmia; and that so far from producing, as might at first be supposed, any increase of pain, that the practice is attended with the most decided advantages; that the pain and redness of the membrane is overcome almost immediately, and the cure effected even without the abstraction of blood. In addition to the testimony of Mr. Melin and Dr. Ridgway, Dr. O'Halloran has recently published the result of his experience with this application, which is highly favourable. I am not sure that this plan is applicable to the disease I have just described: I have never seen it adopted; but from the positive manner in which it has been recommended, and the strong cases of fortunate termination that have been published, I should almost feel inclined to make trial of it, considering the numerous instances of failure which I have witnessed or heard related by pursuing the practice hitherto recognised. I have myself heard from Dr. Ridgway a detail of successful cases, in consequence of the use of the nitrate of silver, to which I find it impossible to refuse my assent.

Ophthalmia, as a consequence of gonorrhœa, sometimes also assumes a different and less formidable shape than that which I have just described. It occasionally is met with in conjunction with the rheumatic pains and swellings of the joints about to be described, with which it alternates. The tarsal glands are the seat of this form of the disease, and it differs in no respect from the commonly described tarsal ophthalmia. The only remarkable feature attending it is the coming on of local pain upon the subsidence of the discharge from the eye, and the return of that discharge when the rheumatic symptoms are mitigated. Independently of the usual methods of treating this form of ophthalmia, by astringent and stimulating collyria—by the application of an ointment, composed either of the red precipitate, with spermaceti cerate, or the diluted ung. hydrarg. nitratis to the edges of the palpebræ, I should think it necessary to institute a mild and alterative mercurial course, in combination with the sarsaparilla in decoction, to the amount of at least a pint, or a pint and a half, in the day. Where this symptom is more than usually obstinate, sea-bathing, and a residence by the sea side, will contribute much to the recovery.

(*To be continued.*)

From the Lancet.

ON THE ORGANIC ALTERATIONS IN THE INTERIOR OF THE EYE AFTER THE RECLINATION OF THE LENS.*

By Dr. W. Soemmering.

The author of this treatise had opportunities of examining eight eyes in which this operation had been performed. The reclinated lens was generally found immoveable on the exterior and inferior portion of the ciliary processes, at a greater or less distance from the iris; it was, except in one case, without its capsule, small, and, as it seemed, absorbed, all but the harder nucleus; of a grayish white, or yellowish brown amber colour, and of an irregular shape; its size appeared to differ according to the length of time which had elapsed after the operation. In two instances it was completely absorbed, and the only remaining trace of it was a slight impression in the margin of the ciliary processes; in one case it seemed unchanged, being covered by the capsule, to which two very fine blood vessels were seen running from the ciliary processes. It was observed, that, when the eye had for some time been lying in alcohol, those parts with which the lens had been in more or less close contact, invariably underwent a very peculiar alteration: the vitreous humour, hyaloid membrane, and retina, were, in these places, more or less turbid; the hyaloid membrane was thickened, the retina wrinkled, and, in one instance, adhering to the choroid; evidently the consequences of a slight inflammation, produced by the pressure of the lens. The capsule had, except in the one case mentioned above, retained its natural situation, and its connexion with the zonula Zinnii; it had been lacerated in the operation in the middle or lower part, and was perfectly transparent; after having for some time been lying in very strong alcohol, it appeared as a yellowish ring near, but unconnected with, the posterior surface of the iris; the internal margin was free, irregular and indented, and partly covered the pupil; in one instance only, a very delicate plastic membrane had been thrown out from it. It was, on the whole, very considerably thickened, and of a gelatinous consistence; being, however, perfectly transparent, this thickening of the capsule cannot be considered as the result of an inflammatory state, and we think the author is right in supposing it to be formed by the secretory action of the capsule, and the subsequent crystallization of the secretion; it is, as it were, the rudiment of a new lens. In two cases, the vitreous humour was very liquid; the cicatrix of the sclerotica could hardly be discovered. In one case of congenital cataract, where the operation had failed, the retina was found separated from the choroid by an intermediate stratum of fluid.

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* Beobacht. ub die organ. Verander. im Auge nach Staar Operationen. Von W. Soemmering, Frankfurt am Main.

M. Soemmering is of opinion, that the formation and nutrition of the lens depend on the continual secretion and absorption of the liquor Morgagni by the capsule, but that there exists no organic connexion between the two organs, and that the formation of the lens out of the humour Morgagni, is a real crystallization. (Such was also the opinion of Haller and of Petit; but Albinus saw the injected vessels of the capsule continued into the lens, and Dr. Jacob's recent researches seem to confirm this observation.) The capsule is closely connected with the zone of Zinn, and, through the latter, communicates with the corona ciliaris, from which it receives the nutrient vessels of the lens.

The different degrees of perfection with which the patients see after the operation, depends not on the more or less transparent state of the interior parts of the eye, but on the irregular shape of the refracting organs. The cataracta secundaria is the effect of a traumatic inflammation of the capsule; sometimes even an effusion takes place between the edges of the capsule, but it is hardly ever the effect of exudation from the uvea, as M. Schmidt maintained. The capsule itself is never absorbed.

From the London Medical Gazette.

ON INFLAMMATION OF THE PLACENTA. By S. J. Stratford, Surgeon.

That inflammation of the placenta will sometimes occur is, I believe, now placed beyond all doubt: the symptoms, and more especially the consequences do not appear to be fully understood: perhaps, however, the circumstances attending the following cases may tend in some degree to illustrate them.

About the middle of June 1828, I was called to Mrs. C. who believed herself in about the third month of pregnancy. She had been attacked with pain in the back, extending down the thighs; it had come on gradually, and was attended with symptoms of fever; such as a quick pulse, sickness at stomach, constipation, &c. These symptoms increased; she was attacked with cold shiverings, and discharge of blood from the uterus: this and the pains increased; and after a short time an ovum was discharged, with its membranes, placenta, &c. The pains now somewhat subsided; so also did the hemorrhage; but there was a degree of tenderness experienced upon pressure just above the *symphisis pubis*. This, however, subsided after the administration of some purgative, and sudorific medicines.

Upon examining the ovum, I found that the fœtus and all its appendages were present. The placenta was large, soft, and spongy; its surface covered with flakes of coagulable lymph: these were particularly marked upon its inner surface, while some were loose, and easily detached. The fœtal membranes I thought somewhat thicker than usual, and more opaque; the liquor amnii contained small portions of lymph floating in it. The umbilical cord was swelled; and the whole cellular tissue of the fœtus was loaded with a thin serous fluid; in some parts to the extent as almost to render it transparent.

Reflecting upon this case, I am led to conclude that inflammation of the placenta is sometimes a cause of abortion, and that the effects of the inflammatory action in this membrane are similar to those which evince themselves in the other animal tissues. The disease appears in some degree to have extended to the structure of the uterus; as may be inferred from the pain on pressure, and febrile symptoms; while the effused lymph decidedly points to the part affected. A very curious, and not the least interesting point, is the effusion of a serum into the structure of the fœtus—a kind of congenital dropsy, bearing a very considerable analogy to general anasarca, caused by disease of the lungs. The similarity in function of the parts tend to convince us, that although it may differ as to the positive situation of its cause, the effects are the same. These conclusions are also supported by a case which occured to me while a student in London. I had engaged to attend a poor woman at her labour; when I first saw her she believed herself to be about the seventh month of her pregnancy; she was particularly large, the abdomen being greatly distended. She had long experienced severe pains in the back, which I suspected might arise from the evident distention of the uterus. About a month after I first saw her, I was called to attend her: before I arrived the membranes had broken, and considerable quantities of water were occasionally discharged. The labour proved tedious, but the child was at last expelled; and I confess I was somewhat surprised to find, although alive, it was completely œdematous; its cellular tissue was filled with serum, as in a common dropsy; the distention of this texture was universal; while in all the parts endowed with a lax cellular tissue it was particularly remarkable. The respiration was very short and quick, evidently oppressed, while the whole of the child felt extremely cold. The umbilical cord was also swelled and full of serum, so much so that I found it difficult to restrain the hæmorrhage by the ligature. The child lived about three weeks, during which period a considerable portion of the serum was removed by the absorbents. The skin now was lax, and the countenance appeared shrivelled and ancient, while general debility was particularly marked; and it sunk without presenting indications of any obvious disease. The symptoms which here presented themselves I am now inclined to believe were caused by inflammation of the placenta; much more chronic, however, than the preceding variety; and the morbid accumulation of the liquor amnii, in all probability, was connected with the existence of the same disease. Some of the symptoms nearly correspond with the description of the compact œdema of infants, as given by M. Leger, and I cannot help suspecting that future experience will confirm the fact, while it will be found that inflammation of the placenta afforded the mechanical obstruction to the fœtal circulation which he imagines was a cause of that disease.

From the London Medical Gazette.

ON THE SPECIFIC EFFECT OF ATMOSPHERIC POISON ON VARIOUS STRUCTURES OF THE BODY, *as connected with the production of Disease—especially Fevers.* By Edward Seymour, M.D.

(Continued from page 138.)

On Fever in which the Poison contained in the Atmosphere appears to act directly on the Mucous Membrane of the Small Intestines, after being received into the Circulation.

1. Where the inflammation and subsequent ulceration is situated in the glandulæ aggregatæ of the small intestines.

This fever, as has been already observed, is most prevalent in spring and autumn, and most fatal in the latter season; to be observed at all times in moist and warm seasons, and more particularly in low situations.

It may be generated in individuals from indulgence in diet, great labour, intense anxiety or watching, combined with bad food, or exposure to wet and cold; but such are isolated examples, presenting the same relation to the epidemic disease which sporadic dysentery does to epidemic. Nothing, perhaps, is more fully proved by our observation, than that a similar disease of structure will arise from a cause generated within the body itself, as that produced at other times by alterations in the atmosphere.

It is to the epidemic disease that these observations are intended to apply. It commences with low shivering, succeeded by heat of skin, great sense of weakness, and occasional nausea. The tongue is at first white, and in some cases dry; the pulse little altered, generally about 100 in a minute. The bowels are often, but not always, disordered; in the majority of cases, loose; occasionally there is pain in the abdomen, but this is not often complained of during the first days of the disease. As it proceeds, flushings of heat occur most frequent from three o'clock in the afternoon until the morning, the face being red, the pulse much increased in frequency, thirst being present, and headach. The tongue is now often red and shining; the bowels very open, and if pressed deeply, a sense of uneasiness rather than pain is most usually expressed, principally in the epigastric and right iliac regions: at other times a sense of tightness is alone complained of, and the parietes of the abdomen, though not tumid, are hard and resisting to the touch, from the contraction of the recti muscles. The evacuations are usually of a pale yellow or light green colour; in the worst cases very thin, and depositing a green sand-like sediment. If the disease be not relieved, the flushings of heat become more severe, there is considerable delirium, the pulse is weak and very quick, with startings. There is low muttering delirium, from which the patient rouses for a moment or two, and then falls back into the same condition. The tongue is brown and the teeth encrusted; the abdomen is now swelled and tense, and the sense of pain on pressure much increased; sometimes there is vomiting, at others spasmodic cough. When the disease is about to terminate fatally, the delirium continues, the flushings of heat are more irregular, one cheek being deeply suffused, whilst the other is of deadly paleness; the evacuations are passed involuntarily, are thin and very fœtid, and the patient sinks rapidly.

Although this is the general progress of the symptoms in this fever, many of them are less severe than others, some occasionally wanting altogether; but the foregoing description applies to by far the greater majority of cases, and has been drawn from the repeated personal observation of the progress of this fever, and the morbid appearances where it has proved fatal in various hospitals, under different physicians, and in different parts of Europe, as well as in private practice.

I proceed to remark the variation in the symptoms which occasionally occurs. There is none, perhaps, greater than the sensation of pain expressed by the patient on pressing the abdomen. Little pain is often expressed even at an advanced period of the disease, and in rare instances it has even proved fatal when no sense of pain has been extorted from the patient by the inquirer throughout the disease. It must be remembered that it is a glandular structure attacked; that these parts are endowed with little sensibility, unless the inflammation be singularly rapid, as is instanced in diseases of the liver and kidneys, glands often found after death much diseased, and whose structure is even greatly injured, when little or no pain has been experienced by the patient. The pulse is generally quick and feeble, but it has been remarked that it occasionally does not differ from the healthy standard; and this is observed throughout the disease, even when rapidly fatal. I am indebted to a very eminent physician for the account of a case of this kind, which excited great interest. A young nobleman was attacked with this disease in the spring of 1825, and died within a week from the first attack. On inspecting the body, the bowels were most extensively ulcerated, and the usual symptoms had been present, except alteration of the pulse, which never exceeded 80 in a minute.

The heat of the skin, although it is generally much increased, is occasionally, after the first few days, not much raised above the natural temperature of the body. These two variations must have occurred to the observation of Dr. Cullen, as we find in his definition of typhus, "Calor *parum* auctus. Pulsus parvus, debilis, *plerumque* frequens." The affection of the sensorium is likewise sometimes slight, but most frequently very severe throughout; indeed I do not know any form of fever (not excepting that in which the brain is affected primarily) in which occasional cases occur of longer or more severe alterations of the cerebral functions.

No really critical days have occurred to my observation in this disease; but on the alternate days, in many cases, there has been a remission of the symptoms. It does not appear to be ever terminated abruptly, or by any sudden evacuation.

Its duration varies from a week to six weeks. In the autumn of 1824, which was unusually wet, this disease was epidemic in several counties in England. In the neighbourhood of London it was very frequent. At that time, among other instances, five cases occurred to my observation in one family, in the neighbourhood of Epsom. The shortest duration of any of these cases was twenty-five days, the longest forty-one. They were extremely severe, but fortunately did not prove fatal. The appearances of the small intestines in this epidemic cannot easily be forgotten by those who, like myself, witnessed numerous post mortem examinations in hospitals of those in which it proved fatal.

The diagnosis of this disease from other fevers, may be drawn from the season of the year, the sense of pain or tightness in the abdomen, the pale thin evacuations, the red dry tongue early in the disease, the flushings of heat at the same time that the patient complains of great debility, and the nature of the prevailing epidemic. The affection of the sensorium will appear to have supervened on the disorder of the bowels, and to be alleviated by the remedies administered to the latter.

The treatment of this disease will be most effectual when applied to diminish the inflammation of the glandular structure, which speedily terminates in ulceration; and when this ulceration has taken place (which may be judged of by the increased violence of the symptoms, or the long duration of the disease,) by producing an alteration in the secretions of the diseased parts, as in any other obstruction of diseased glands.

This is to be done, first by the free evacuation of the bowels, any feculent matter remaining in the bowels serving only to irritate the excited mucous surface; and, secondly, by diminishing the stage of excitement from the neighbouring vessels.

This will be best effected by a dose of calomel at night, and haustus sennæ in the morning, which may be repeated according to the circumstances of the case. The bowels being freely evacuated, and the thin watery pale stools continuing, an alterative dose of mercury should be given every night, followed on the alternate mornings with as much rhubarb and magnesia, in some aromatic water, as will produce two or three evacuations. The mixture of rhubarb and magnesia is very preferable to the saline purgatives, being slower in its operation, and thus promoting a more gradual secretion from the diseased glands.

In slight cases, this treatment of itself will be sufficient to relieve the disease, the tongue becoming clean and moist, the bowels free from pain and of the natural softness to the touch, and the evacuations of natural colour and more consistence.

But it frequently happens that the physician is not consulted until the disease has made some progress, and is severe of its kind; when there is tenderness felt on pressing the abdomen, loss of strength, a red and dry tongue, assuming a brown centre, great affection of the sensorium, and frequent liquid dejection from the bowels.

Here it will be advisable to apply leeches to the abdomen, promoting their bleeding by fomentations, or light bread and water poultices, from the use of which a sense of very great comfort is expressed by the patient. An injection of starch, with twenty drops of laudanum, should be given, and some alterative preparation of mercury, with or without a few grains of Dover's powder, thrice daily. The bowels being quieted, the draught with rhubarb and magnesia, or castor oil, should be given every second or third day, to carry away the secretions from the diseased surfaces; and, indeed, by far the most successful practice has appeared to me to have arisen from administering a constant moderate purgative throughout the disease. The symptoms of tenderness having been relieved by leeches and fomentations, and the disease appearing severe, the application of a blister to the abdomen should not be neglected.

I have hitherto said nothing of the palliative treatment of parts secondarily affected. The sensorium is occasionally much disturbed, but as this does not arise from inflammatory action, but from sympathy with the diseased bowels, it is unnecessary (unless in a very plethoric person) to deplete. Cold may be applied to the head with great relief, and the pediluvium with flowers of mustard is likewise advantageous; but the most certain remission of pain is produced from the decrease of the abdominal irritation. In very severe cases, however, the nervous system sympathises very considerably with the primary disease. There is subsultus, sighing, rolling the head, great restlessness, constant muttering delirium. While the primary disease is not neglected, these consequences may be diminished in intensity. In more than one case in private practice, I have been led to believe that the use of the hop pillow was attended with tranquillizing effects; and from the use of light diffusible stimulants, as nitric æther, ammonia, but more particularly musk, a great diminution of the distressing symptoms has been observed. The increase of temperature is of course to be restrained, by sponging with tepid vinegar and water, and the administration of cool drinks. On the continent of Europe it is the custom in these cases, when the heat of skin is not very great, or the pulse much increased, to administer the tepid bath daily, which has often appeared to hasten the cure, and certainly contributed greatly to the comfort of the patient. In this country we are so little in the habit of employing this remedy for any length of time, or using it as an habitual luxury, that the prescription of it in private life is attended with inconvenience. This renders its remedial powers less well known than they probably deserve.

The abrasive ulceration of the bowels is much more rarely observed than that situated in the glandular structure. In the very few cases in which this appearance has occurred to my observation after death, in connexion with fever, the symptoms had been of the same nature of those enumerated above—less severe, but of longer continuance.

The erosive, or sloughing ulceration of the bowels, is a condition presented on the examination of the body after death, much more rare than the preceding, and more frequently fatal.

The disease commences with languor, shivering, great sense of weakness. The heat of the skin is seldom much raised above the natural standard. The pulse is from the beginning weak, and rather more rapid than usual; towards evening it becomes quicker, and a slight perspiration is perceptible at short intervals, which does not relieve the urgency of the symptoms. There is complete loss of appetite. No pain is complained of. The tongue is white and tremulous. There is thirst. The respiration is very laborious, with frequent sighing. The dejections are of a pale yellow colour, and of most unusual fœtor. The patient is sleepless and restless, but there is little or no delirium. The urine is scanty and high coloured.

As the disease advances a very large quantity of blood is often passed by stool, of a dark colour mixed with coagula, unattended for the most part with any local pain. These stools are often passed after the interval of one or two days, and the period of the disease at which they occur is very various. The tongue now becomes brown, the pulse still weaker and unequal; and, unless effectual assistance is afforded, the patient sinks.

This form of fever may be distinguished from the preceding by the pallid expression of the countenance, the sense of extreme debility, the absence of the severe accessions of heat; by the pulse being, even in the evening, weak and not greatly accelerated, and by the uniform absence of pain when the large hemorrhages occur.

The disease is distinguished from dysentery by the absence of tenesmus, and that of the excretion of scybala and mucus, but above all by the total absence of pain. From diarrhœa it differs in the absence of pain and in the nature of the discharge, and the presence of fever.

The following are the appearances presented after death in a case of this kind, which will best illustrate the seat of the disease described. The colon and rectum were very large, of a dusky red colour, and full of fluid blood in an imperfect state, mixed with some coagula. The veins of the mesentery near the intestines, and some of the mesenteric glands, appeared to contain some fluid of the same kind as that in the cavity of the intestines, the glands being very soft. A large ulcer was found in the beginning of the colon, and a few in different parts of the small intestines; but at the termination of the ileum there were a great number of ragged irregular ulcers, having portions of sloughy membrane and muscular fibre on the surface. In some places little more than the peritoneal coat was left; in others the muscular fibres were clearly dissected by the ulceration: the liver and kidneys were healthy, but almost destitute of blood: the spleen and lungs were healthy.

It is seldom that alarm is excited previous to the passing of blood by stool, and consequently the ordinary remedies of evacuating the contents of the intestines, and giving saline medicines, is all that is resorted to. As soon, therefore, as we have reason to believe, from the passage of considerable quantities of venous blood, that this species of ulceration has arisen, or is about to take place, (the fluid transuding the coats of the enlarged and weakened vessel,) the powers of the patient are to be upheld in the same manner as if the unhealthy destruction of parts existed on the surface instead of the interior of the body.

In the short stage which precedes ulceration I have never seen any advantage derived from venesection in this form of disease, and it appears to lower the vital powers much beyond the proportion usually observed after moderate bleeding.

It does not appear from any of the known properties of mercury that it is adapted to this condition of disease. The inflammation is not of the kind which ends in the effusion of lymph; the glandular structure is not the seat of the disease, as in the former case; the chief symptom is the great depression of vital power. If the nature of the complaint be recognised sufficiently early, blisters to the abdomen appear most likely to check the disease. Opening medicine, which will carry off the secretions of the bowels, and, perhaps, also stimulate the diseased surface, are essentially necessary; and for this purpose the oil of turpentine, with castor oil, has been recommended and employed with the greatest possible good effect. The strength should be supported with animal broths, jellies, &c,; and wine and bark administered according to the powers of the patient. Opiates, as far as my observation is concerned, are not productive of advantage.

It has been shown in the foregoing remarks to what an extent the mucous membrane of the bowels is diseased in these forms of fever; and that, in the great majority, no lesion of the brain or its membranes is to be observed. How, then, are we to explain the received opinions that the first impression of miasmata is upon the brain, and that these lesions of the bowels are subsequent to such impression?

The consideration of other diseases teaches us that the greatest possible disorder of the functions of the brain arises from irritation in the alimentary canal. The familiar example of severe headach from acidities in the primæ viæ, or stoppage of the half-digested food in the duodenum, are known to all. There is another disease, infantile remittent fever, most frequent in large towns, which the profession appear agreed to arise from diseased secretions in the bowels, and which is cured by repeated and long-continued purgatives: here the functions of the brain are much disordered; there is headach, stupor, startings, and in children above six years of age, delirium; and yet all these manifestly and clearly arise from diseased secretions of the bowels, ceasing when these are restored to a healthy state—returning if neglected.

Convulsive fits of various kinds have been observed from irritation of the bowels, especially from worms well known to be found in the small intestines. It is true they often exist without any obvious derangement of health, but it is certain, where they are generated at the same time that the secretions of these bowels are unhealthy, the corresponding disorder of the nervous system is very remarkable. As an example I may mention the following instance. In the spring of 1823 I attended, at Florence, a young lady, with Drs. Down and Todd, who passed through almost every form of spasmodic disease: epilepsy, tonic spasm resembling tetanus, and occasionally approaching to that very singular disease which have been called catalepsy. Bleeding, cold affusions, antispasmodics, were employed in vain; but the principal symptoms, after the expulsion of several lumbrici, ceased, and the patient recovered her health after persevering in the use of purgative medicines for several months.

It appears to me, then, to be proved to demonstration, that irritation or disease in the primæ viæ may produce very considerable disorder of the nervous system; and in the fevers before us we have a very remarkable example of, first, disease, and subsequently disorganization of the secreting surface of the bowels, together with great disturbance of the cerebral functions. Is it reasonable to suppose that such disorganization is the result of a primary impression on the nervous system, which we cannot explain, the progress of which we cannot trace, and which bears no analogy to any other pathological process? or is it not more reasonable to suppose that the inflammation and disorganization of a surface which is to secrete fluid, to shield the bowels from injury, and to assist in the separation of food, and on which open those absorbent vessels which are to carry to the heart the chyle necessary for the reparation of the body—is it not more reasonable to suppose that such an injury is the cause of the disturbance in the cerebral functions, which even an irritation in the same part may derange?

It is true that abscesses are found in the liver, and inflammation of the serous membranes occur after injuries of the head—and this fact may be urged to prove that disease of the brain and nerves may determine at a distance similar lesions; but whether such abscesses are really formed through the agency of the nerves, is yet to be determined, such abscesses and collections of purulent matter and lymph occurring equally from the injury of an extremity as from the injury of the brain itself.

In disease of the brain itself we find no such injuries of the bowels. A patient will die of fever (I have seen many such in hospitals,) as I shall have occasion to notice hereafter, with very considerable lesion of the brain, but the bowels are uninjured. Children are affected with hydrocephalus, the inflammatory stage is over, fluid, and sometimes lymph, are effused, the brain after death is found vascular

—with these results of inflammatory action are the bowels diseased? No, they are blanched, but their structure is unimpaired; surely in *some* of these cases we ought to find injuries of the mucous lining of the bowels, ulcerations of the glandular structure, &c. if an excitement of the brain, which leaves behind it no trace of injury, can operate such extensive mischief at a distance.

(*To be continued.*)

From the Glasgow Medical Journal.

CASES IN WHICH LUMBRICI WERE EVACUATED BY ULCERATION THROUGH THE PARIETES OF THE ABDOMEN. Communicated by WILLIAM YOUNG, M.D.

CASE I.—J. L. aged seven years, had frequently passed lumbrici. About the beginning of March 1817, he was attacked with severe pain in the right side of the abdomen, between the crest of the ileum and last false rib, but from which he had occasional slight intermissions, and for several weeks seemed easiest when sitting with his trunk bent forward, and his elbows resting upon his knees.

A tumour, about the size of a goose's egg, gradually formed in the right lumbar region, which remained a considerable time without any discoloration of the integuments; but disappeared suddenly after a copious discharge of grumous fœtid matter from the bowels, occasioned, it was supposed, by its bursting internally. This occurred in May, and the patient's general health improved during the summer: in August it again became worse, and a swelling appeared on the right side, extending from the sacro-iliac junction to the twelfth rib. The medical gentleman in attendance declined to open the tumour, but ordered onion poultices, to accelerate its suppuration. The abscess burst spontaneously while the patient was in bed, but the fœtid smell that arose from it gave the family intimation of the occurrence. The child was literally drenched in the contents of the abscess, in the orifice of which was found a white substance, which proved to be a lumbricus alive and active, measuring eighteen inches in length. The poultices were still applied to the abscess, and in the course of a few weeks a second and a third worm of the same kind made their way through the opening. No fæces were ever observed to pass through this aperture; although purulent matter was abundantly discharged from it for several months, the wound ultimately cicatrized.

This boy enjoyed good health from May 1818 till the spring of 1819, when, in common with the rest of his family, he had an attack of fever: during his convalescence, a swelling again appeared on the right side of the abdomen, about three inches nearer the linea alba than the former one. This swelling suppurated, and towards the beginning of June, a considerable time after it had burst, a worm of ten inches in length was found on the poultice. During the months of June and July a great improvement took place in his general health, the discharge diminished, and he ran about and amused himself. On the third Tuesday of August he came home from play, complaining of intense itching and uneasiness in the abscess, and exclaiming that he could bear it no longer. From this state of suffering he was relieved by removal of the dressings, when a large worm was found hanging from the abscess in his side; its extraction was effected with some difficulty, and was followed by a stream of blood. This was the last of five worms which passed through the parieties of this boy's abdomen.

In October 1819 he appeared to be in good health, and the abscess through which the last worm had passed was closed, and covered with a scab. In August 1820 he was in perfect health and attending school.

In concluding this case, it may be observed, that about twelve months before the formation of the last abscess, a pin encrusted with verdegris had come through the same part of the abdomen by suppuration; it may, therefore, be a question whether the worms insinuated themselves into the track of the pin, or formed a new one by erosion.

CASE II.—R. F., eleven years of age, of a sallow complexion, had enjoyed tolerable good health till 21st of October, 1819. His complaint commenced with feelings of contraction in the abdomen, chilliness, and a constant desire to approach the fire; the chilliness was succeeded by flushing of the face, slight heahach, and other systoms which usually characterize an attack of typhus mitior. As this complaint was very prevalent in the place at that time, the medical attendant was induced to refer his indisposition to that cause. With this view of the case, an ipecacuanha emetic was prescribed on the 23d, which operated well, but did not seem to alleviate the complaint in the slightest degree. On the 24th, a dose of calomel and jalap was administered, which also operated well; the bowels, however, had not been in a costive state. The febrile symptoms continued unabated; at one time he complained of pain in the right side, about the situation of the fifth rib, and at another time of slight griping pains of the bowels, which were, however, only of short duration. The typhoid symptoms and low delirium were moderate; and the bowels continuing open, he was ordered a small dose of rhubarb. About the beginning of November his lips and teeth began to be covered with a chocolate-coloured sordes, but the tongue was clean from the commencement of the disease. On the second day of his indisposition he took a little food, but during its progress he tasted almost nothing; his thirst was allayed by drinking milk and water. On the 2d of November he appeared likely to do extremely well, there being no unfavourable symptoms present. About three o'clock of the morning of the 3d he felt an inclination to go to stool, where he voided some clotted blood, and a worm. A little before four A.M. he had a profuse discharge of blood from the anus, so profuse, indeed, that his father, who is a most intelligent man, said he could compare it to nothing but the gush of blood from a sheep's neck while throbbing under the butcher's knife; syncope was the immediate consequence of this hemorrhage. Cloths dipped in cold water were applied to the anus, which appeared to check the bleeding externally, and the patient recovered from the syncope. About seven o'clock the hemorrhage returned; on lifting the bedclothes every thing was found drenched in blood; a little behind him was a large lumbricus, and another was making its way through the anus. He calmly expired soon after; but on the supposition that he might only be in a state of syncope, the body was wrapped in warm flannel, and kept in that state for a few hours. At eleven A.M. a little blood was found to have oozed from the anus, and two large lumbrici were in the act of passing it; but there was not the slightest hope of resuscitation.

Dissection.—On laying open the abdomen, the viscera, in general, appeared uncommonly pale and flaccid, and contained no flatus throughout their whole extent. The ilium, a few inches above the caput coli, was of a dark-brown colour; the blood-vessels were distended, and the mesenteric glands in the vicinity enormously enlarged. The ilium was opened about three feet above its termination in the colon, and every portion of it carefully examined; several small lumbrici were found high up in this portion of the intestinal canal, and three measuring from six to ten inches in length. In tracing the intestine downwards, a considerable quantity of greenish flocculent semi-organized matter was found, containing a great number of small lumbrici; several large ones were also found near this matter, with several ulcerated patches of the gut. The mesenteric glands were enlarged, and the blood-vessels much more wasted where the worms and ulcerations were situated than in the portions of the intestinal canal which were not similarly affected. The discoloration of the termination of the ilium was discovered to arise, not from any change in its structure, but from the flocculent substance above mentioned. At the termination of the ilium and valve of colon, a vast number of worms, of different sizes, were found: these parts were deeply ulcerated, and the valve was considerably thickened. In the caput coli were found several clots of blood.

In the preparation which has been made of this part of the intestine, on the left side, immediately over the valve of the colon, there is an eroded vessel from which the hemorrhage seems to have taken place, and into which a bristle has been inserted. In the ascending colon many ascarides were observed, but there were not the slightest appearances of either blood or fæces. The transverse and descending colon had a blanched appearance, and contained here and there a few ascarides and small lumbrici, but neither blood nor fæculent matter. In the rectum four large worms were lodged; its internal coat seemed suffused with blood, but no ulceration was observable. From the most careful examination of the lower portion of the alimentary canal, there cannot be a doubt respecting the place from which the hemorrhage proceeded, although there was no blood found in the colon, with the exception of that in the caput coli. The spleen was nearly double the usual size. The stomach contained a considerable quantity of water, and two pieces of curd, about the size of a hen's egg. The upper part of the intestinal canal was quite empty.

Case III.—M. F., aged 15, sister of R. F., whose case had just been given, is a tall thin girl, with a pale sallow complexion. In the beginning of June 1818 she was attacked with severe bowel complaint; the pain was often excruciating, and though not absolutely fixed to a particular spot, was generally in the lower part of the right side of abdomen. During the paroxysms of the disease the belly was retracted, and the knees folded up upon the breast; in this state she would frequently scream out in the greatest agony. As the pulse was moderate, the complaint was at first supposed to be colic, induced by cold applied to the extremities, or something in the ingesta that had deranged the functions of the alimentary canal. Warm fomentations were applied to the abdomen, and a dose of castor oil, with thirty drops of laudanum, was administered. As little advantage was obtained from this practice, salts, senna, and several doses of calomel and jalap were prescribed. Although these medicines brought away four large lumbrici, the patient's sufferings continued with very little abatement: even from the commencement of the complaint, she had intervals of comparative ease, from a state of the most acute distress. This circumstance, along with the evacuation of the lumbrici, induced me to refer the whole complaint to the irritation of worms on the coats of the intestines. About the 11th of June the paroxysms became both more severe and frequent; as the pulse was small, and considerably accelerated, ten ounces of blood were taken from the arm. This detraction of blood seemed to have little effect on the local complaint, and the constitutional symptoms of enteritis not being strongly marked, purgatives, topical blood-letting, frictions with camphorated mercurial ointment, and blisters, were the means employed for her relief. The practice pursued in this case seemed to be indicated, not only from the severity of the pain, but also from a large deep-seated tumour in the right side of abdomen, situated about midway between the umbilicus and crest of ilium. Some doubts were entertained respecting the cause of this tumour, as it might either proceed from the operation of some unknown cause between the peritoneum and abdominal muscles, or from the irritation of worms penetrating the coats of the intestines in contact with the internal surface of the abdominal muscles.

By whatever cause it might have been occasioned, it was deemed advisable by every possible means to prevent its going on to suppuration, which could only be retarded by the means employed. At length fluctuation became distinctly perceptible, the abscess burst, and discharged a large quantity of purulent matter. On the supposition that the complaint had originated from the irritation of worms, an expectation was entertained that some of these might possibly make their escape with the contents of the abscess. Nothing unusual, however, was observed in the matter discharged. By July 30th the discharge had become so inconsiderable, that the poultices were laid aside, and a piece of adhesive plaster was applied over the sore. She now began to walk about and take a little exercise in the open air. Her health was so much improved in the course of the following winter and the spring of 1819, that she was not considered as a patient. In walking she stooped greatly, and appeared unable to stand upright; although the wound gave her very little inconvenience, it had never healed up. In June she went to the country, where there is every reason to believe she exerted herself much more than was proper for her, in the debilitated state in which she was at that time. After her return she had severe pain in the bowels and in the site of the abscess, and the discharge of pus was occasionally mixed with the contents of the intestines.

She went to the sea-coast for the benefit of the air, and contrary to the instructions given her, went several times into the water. She returned home in a very lamentable condition, often harassed with excruciating pain, and the discharge of the contents of the intestinal canal through the abscess evidently increasing. About the end of September a white shining substance was observed obstructing the orifice of the abscess; the patient extracted it herself, and it proved to be a dead lumbricus in a semi-dissolved state. A few days after this worm was extracted, another of the same species made its escape alive. The tormina were frequently agonizing, and attended with flatus, and a copious discharge of liquid fæces through the abscess, so that for several weeks she was unable to keep herself dry an hour at a time. Jan. 3d, 1820, she was able to walk through the house, and was much better. This poor girl's health continued variable till the 4th of March, when a considerable hemorrhage took place from the abscess, which threw her into great alarm, as she conceived her case to be, in many respects, analogous to that of her deceased brother, whose history and dissection have been given in the preceding pages. On the evening of the 4th she had a stool, which contained a considerable quantity of fluid blood, and on the day following she passed ten or twelve ounces more. Her countenance was pale, her eyes dull, and her pulse scarcely perceptible at the wrist. Although she recruited a little from this state of debility, she remained several days in a very languid condition, without any evacuation from the bowels; her extreme weakness appeared to preclude the propriety of even an enama being administered.

During the course of her tedious illness, her natural faculties, which were of a very superior order, were often employed, in the moments of relaxation from pain, in flights of poetical composition and devotional exercise, which rendered her peculiarly interesting to those who knew her intimately. She languished till the morning of the 12th March, when she expired without a struggle.

Dissection.—In different parts of abdomen several glands were found in a state of suppuration, but the matter they contained was of a concrete nature. The omentum was almost entirely absorbed, and what remained of it had the appearance of dirty blue woollen thread. The jejunum, about two feet and a half from the duodenum, was greatly narrowed, and adhered to the abdominal muscles; at the adhesion thus formed, there was an aperture in the intestine, communicating freely with the external opening of the abscess. The next portion of the intestinal canal involved in the disease was the termination of the ilium, and commencement of colon, both of which were connected with the diseased portion of the jejunum, and communicated with the aperture of the parietes of the abdomen. The last portion of the intestine implicated in the diseased adhesion was the ascending colon, where it bends round in its course to the left side, and which also communicated with the common aperture. The portion of the colon situated between the two points adhering to the parietes of the abdomen was much ulcerated, and from it, most probably, the hemorrhage proceeded.

The mother of R. and M. F. is still alive, and suffers much from the complaint which carried off her children; in fact this family, like Herod, is really eaten up by worms. Some French naturalists entertain the notion that a moderate use of wine is the best preservative against intestinal worms; it certainly appears that the inhabitants of wine countries are less subject to them than those nations who do not possess this salutary beverage.

Such is the account of this very interesting case, communicated to me by the medical gentleman who attended them. So far as I know, no account of any similar ones has been published in this country, except one case, in the first volume of the Edinburgh Medical Essays, and two in the seventh volume of the London Medical Journal. The first is related by Mr. Douglas, an army surgeon, of a woman who was seized with gripes, vomiting, and costiveness, which continued four days, under the most active treatment; she had an indolent tumour in the right groin, which suppurated, and, after being opened, gave exit, at different times, to four large lumbrici. The orifice gradually healed up, but at the end of a month a small opening formed in the cicatrix, from which the thinner parts of the excrements were discharged.

The second, by Mr. Coleman of Sandwich, of a woman who had a large abscess in her right groin, which burst, and sloughed to a considerable extent, and who, at various times, passed thirteen lumbrici by the abscess, and two by the anus; her health gradually improved, but a fistulous sore remained, from which she discharged purulent matter, tinged with fæces, and occasionally a lumbricus.

The third, by Dr. Hamilton of Ipswich, of a child, eighteen months old, who had a swelling of the navel, supposed to have arisen from some violence in taking off the dressings, before the cord had thoroughly separated. Although the part appeared to have healed, it always appeared tender, and, to prevent its protruding, a bandage was pretty tightly applied over it; on removing it one day, a lumbricus was found crawling on the abdomen. On examining the umbilicus two small holes were found in it, from which came away ten more lumbrici, each from six to nine inches in length.

In cases of this kind it is difficult satisfactorily to account for the occurrence of external abscesses; for even granting that the long continued irritation would produce ulceration of the bowels, we should either expect them to find their way into the cavity of the peritoneum, sooner than through the abdominal parietes; or, at least, from the known frequency of intestinal worms, to meet more frequently with the complaint. As it is, however, the fact of adhesion taking place between the bowel and the abdominal parietes, so that the cavity of the peritoneum is protected, and the foreign body brought to the surface, affords, perhaps, the most striking illustration recorded of Mr. Hunter's doctrine of progressive absorption; a process to which he has given the quaint but expressive appellation of the *natural surgeon.*

From the Lancet.

CASE IN WHICH THE CÆSARIAN OPERATION WAS SUCCESSFULLY PERFORMED.

E. Zenobina, ætat. 23, of a feeble constitution, and who, in her childhood, had suffered much from rachitis, felt, on the 11th of May, the first symptoms of approaching parturition. The pains, within a short time, increased to an extraordinary degree; and, after twenty-four hours the membranes burst, but without being followed by the expulsion of the child. After the patient had remained in this condition for two days; the midwife, who attended her, sent for Dr. Lotti, who, after an accurate examination, declared that the malformation of the pelvis prevented delivery in the ordinary way; the umbilical cord, which had descended, being without any pulsation, he inferred that the child was dead, and insisted upon the patient's being immediately removed to the hospital, in order to have recourse to surgical aid, without any further delay. In the hospital, she was examined; and it having been found that the largest diameter, from the pubes to the sacrum, was not more than three fingers; the professors of the surgical department, and of the internal clinic, were sent for to consult on the best means of delivering the patient. The Cæsarian operation being unanimously resolved upon, M. Tassinari, one of the oldest and most experienced pupils of the Institution,* was chosen to perform it in the presence, and under the superintendence of the Professors, MM. Ucelli, Bigeschi, Betti, Andreini, and Michelacci. The patient having been placed on a table, M. Tassinari raised a transverse fold of the integuments, between the umbilicus and the pubes, and divided it over, and parallel with, the median line; a director was now carried under the aponeurosis of the abdominal muscles, and the latter divided upon it; the peritoneum having thus been laid bare, it was lifted up by a small pair of forceps, and divided by the scissors. The uterus now presented itself in a contracted state, and was opened longitudinally by a probe-pointed bistoury; M. Michellacci seized the child's feet; and while Professor Ucelli, with his hand introduced into the vagina, raised its head, succeeded in extracting it with the greatest facility. The umbilical cord was divided, and the placenta removed through the vagina. The child was without any signs of life. The edges of the wound were now brought together, and kept in this situation by five sutures; a tent was placed in the lower angle, in order to promote the evacuation of purulent matter; the wound was covered with lint, and a uniting bandage. After the operation, the patient was allowed nothing but fluids. During the following night she had a violent attack of fever, with a sharp resistant pulse, to which tympanitis, vomiting, and ischuria, soon succeeded; the abdomen was very tender, and some blood escaped from the wound and the vagina. By repeated bleeding, the use of ice-water, and emollient clysters, these symptoms were happily subdued; and, on the 17th, the lochial flux began to appear. From the 20th, much purulent matter escaped from the wound and vagina, and the breasts swelled and became painful. On the 21st, the bandage was, for the first time, removed; the wound had completely united except at its lower angle, from which the tent was now removed. During the following days, the fever abated; the alvine excretions became regular, the patient recovered her appetite, notwithstanding which the low diet was continued. On the 27th, the sutures were withdrawn, erysipelatous inflammation began to appear near the pubes, but soon disappeared again. The cicatrix became more consolidated; on the 8th of June, the patient was able to leave her bed; and, on the 16th, she was discharged perfectly cured.—*Repertoire Général d'Anatomie, &c.*

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* It is the praise-worthy custom of our hospital, that all operations are performed by the first pupil of the surgical department, provided that after several examinations, and after having performed every surgical operation several times on the dead subject, he has shown himself fully capable of it. Of course the young operator acts under our immediate direction and superintendence, so that, at the least accident, the operation may be terminated by the professor; in fact, he and the operating pupil may be considered as one and the same person. The immense advantages of this practice are apparent; the attention of the pupil is much more attracted and fixed; he is obliged not only to instruct, but practically to exercise himself; he thus best acquires that intrepidity, without which no surgeon ought to enter into his practical career. If there is any one who loses by this custom of our hospital, it is the professor who renounces the honour, and takes upon himself the responsibility of the operation; but we are justified in asserting, that to it chiefly we owe a great number of excellent practitioners, and most skilful operators.—*Anno di Clinica externa dell' T. e R. arcispedale di Santa Maria Nuova, del Professore Filippo Ucelli.*

From the Archives Generales de Medecine.

DE L'EMPLOI DE L'ACETATE D'AMMONIAQUE DANS LES MALADIES UTERINES. Par M. PATIN, D.M.P.

The Archives Générales de Médecine, Vol. xii. page 651, contains the following note.

"*Employment of the Acetate of Ammonia in Cases of Difficult Menstruation.* By M. J. Cloquet.—A woman of a nervous temperament, had for the space of seven or eight years—ever since the first appearance of the catamenia, suffered at each period from very acute colic pains, which continued five or six hours before the menses began to flow freely. The pains, which were *dull* at first, soon became so violent that the patient was in continual agitation; her countenance was pale and discomposed. Many physicians had been consulted upon her case, but every effort to afford her relief had hitherto been unavailing. About six weeks since, having heard of the success which Professor Mazuyer of Strasburg had met with, in the employment of the *acetate of ammonia* in cases of this kind, I directed my patient, who had been already more than an hour in a state of great suffering, to take *fifty drops of the acetate of ammonia* in two doses, with an interval of half an hour, in a glass of sweetened water. After the first dose, the pains began to subside, and a little time after the second, disappeared entirely, the menses making their appearance. Unable to draw any positive conclusion from this fact, because the pains had already continued for some time, and might have disappeared rather sooner than usual, from the spontaneous flow of the menses, I awaited the following period, to remove all doubt by administering the medicine upon the first accession of pain. She took accordingly thirty-six drops of the acetate of ammonia in a glass of sweetened water, and the pain, instead of augmenting rapidly as usual, sensibly diminished; half an hour afterwards, a slight degree of it still existing, I directed a repetition of the dose, when it ceased altogether; the menses flowed for the first time easily, without being preceded by acute pain, and two hours afterwards the patient walked out."

Having repeatedly experienced the inefficacy of the ordinary remedies in cases of difficult menstruation, and knowing the safety of the proposed medicine, I did not hesitate to avail myself of the fact communicated by M. J. Cloquet. It will be seen how I was led, by the series of facts which fell under my observation, to extend the employment of the acetate of ammonia to the treatment of several other diseases of the uterus, and to recognise in it a specific sedative power upon the uterine action in general.

Case 1st.—A married female, æt. 34, of a lymphatico-sanguineous temperament, whose health had been much impaired by mental distress, and frequent hemorrhagies from the uterus, was attacked with phthisis, and cancer of the neck of the uterus. The disease last mentioned, which had now existed about two years, was sufficiently characterized by the lancinating pain in the diseased parts, by the enlargement and induration of the organ, and by the existence of deep ulcerations, with reverted borders, discharging in large quantity a sanious pus, horribly fœtid, and mixed with organic debris and small coagula of black blood, &c. Both walking, and a sitting posture were extremely painful; the neck of the uterus greatly elongated, notwithstanding the absence of all collapsus, descended nearly to the orifice of the vagina.

The habitual suffering occasioned by this frightful disease was considerably augmented at the approach of each menstrual period. The abdomen, tense and excessively painful, could not bear the slightest pressure. The lancinating pains now became constant, deprived the patient of sleep, and after some days reduced her to a state of exhaustion and immobility, which was only interrupted by frequent convulsive movements and plaintive cries. Finally, on the fifth or sixth day, an abundant hemorrhage supervened, and relieved the patient from her dreadful sufferings, but threw her into a state of debility not less dangerous, and which could not fail to hasten the approach of death, for other reasons inevitable.

Two months in succession, I had been a witness of this scene of pain, without the power, notwithstanding the employment of all the usual means, to afford any relief to my patient. On the recurrence of the next menstrual period, calling to mind the case of M. J. Cloquet, I resolved to have recourse to the acetate of ammonia. The symptoms had already attained their height, when the patient took forty drops of the medicine, in a glass of sweetened water. The pains rapidly diminished, and after twenty minutes entirely disappeared. The menses flowed on the sixth day as usual; they were abundant, but did not, like the preceding, amount to a hemorrhage.

The relief obtained by the patient had been so prompt, and the suspension of the cancerous pains themselves was so evidently due to the medicine, that she was desirous of continuing its employment during the interval of the menstrual period. As often as the lancinating pains recurred, or there was reason to apprehend one of those hemorrhages so frequent in cancer of the uterus, thirty or forty drops of the medicine suspended the pain, and rendered the flow of blood less abundant, if it did not prevent it altogether.

The next appearance of the menses was unattended with any unpleasant symptoms, and in the quantity and duration proper to a state of health, but with a sensible diminution when compared with the preceding. The diseased organ had lost its increase of volume and of length, the ulcerations had a better aspect, and some of them even seemed to be advancing towards cicatrization; the discharge from them was also less copious, less fœtid, and less charged with organic remains. The patient could now maintain herself in a sitting posture, and walk without pain.

Had it not been for the existence of phthisis, I will confess that I should have entertained some hope of effecting a cure. But it was too evident that this terrible concomitant must limit the exertions of the physician to the mitigation of suffering. The patient shortly after left the city, and I regret that I have been unable to obtain any farther information respecting her.

This case, in the detail of which I have omitted every thing that had no direct connexion with the subject in question, strongly arrested my attention; it showed me, in fact, the acetate of ammonia, not only producing the effect already indicated, but also suspending the lancinating pain of a cancer of the uterus, meliorating the condition and moderating the hemorrhagic disposition of this organ. A case better adapted to evince the true modus operandi of this remedy, in cases of this nature, than the one just related, could scarcely be conceived. This action is evidently specific and sedative, and if the acetate of ammonia facilitates the menstrual discharge, it can only be by calming the state of orgasm, of which, in certain females, the uterus is at this period the seat.

It will doubtless be suggested, that the amendment in the disposition to uterine hemorrhagies, was owing in this instance not to any remedial agency, but to the powerfully revulsive action of the phthisis with which the patient was simultaneously attacked. This supposition is disproved, 1st, by the priority of the cancer, and consequently the probability that the phthisis was symptomatic of this affection; 2d, the constant tendency of hemorrhagies of this nature to grow worse. Moreover, the facts hereafter to be adduced remove all doubt on this subject.

Case 2d.—For the space of four or five days previous to the appearance of the catamenia, a girl, æt. 19, experienced a sensation of weight in the pelvis, colic pains, acute pain in the head, nausea, vomiting, restlessness, insomnia, &c. These symptoms, which continued five or six days, increased in severity from the moment of their accession, till the appearance of the menstrual discharge, which was small in quantity, and about three days in duration. Sixty drops of the acetate of ammonia, taken in two doses, on the second day of the menstrual effort, immediately relieved her from all her sufferings. If they recurred on the third or fourth day, a repetition of the dose again removed them. After three months of this treatment, the menstrual effort had ceased to be attended with pain, but the catamenia had sensibly diminished in quantity, and their duration was limited to a day and a half. The medicine was then discontinued, and the menses gradually resumed their former condition, without however being preceded by pain.

Case 3d.—In the case of a woman, aged 25 years, who menstruated regularly, the discharge was preceded and accompanied, besides the local symptoms, with a dry cough and great oppression. The acetate of ammonia, employed as in the preceding case, was productive of similar effects, occasioning a temporary diminution of the discharge, and the rapid disappearance of the unpleasant symptoms.

If, after the first case, any doubt had remained upon my mind relative to the properties which I have attributed to the acetate of ammonia, it would have been removed by the two cases which I have just related. It is proved, therefore, that this substance has a specific action upon the uterus, and especially possesses the property of moderating sanguineous discharges. And if such be the case, we might anticipate salutary effects from it in menorrhagia, and whenever irregularities in the catamenia were owing to a state of surexcitation of the uterus. It will be seen how far these anticipations are confirmed by experience.

The fourth case detailed by Dr. Patin is that of a country woman, æt. 32, of a nervous sanguineous temperament, who menstruated for the first time at the age of twelve years; the catamenia were regular in their recurrence till her marriage, when a variety of moral causes concurring to impair her health, this evacuation became very irregular, in general more frequent, and so profuse as to occasion considerable debility and great emaciation. To these symptoms were soon added an habitual dry cough, oppression, nausea, vomiting, and indigestion. She became three times pregnant in the space of four years; uterine hemorrhages followed her two first accouchments, and violent peritonitis, which for some time threatened her existence, the third. She recovered, however, and for the space of a year afterwards, suffered no other inconvenience except what arose from the increased frequency and quantity of the menstrual discharge. At the expiration of this time, the causes which had formerly deranged her health were again called into operation, and with more intensity than before; the catamenia became still more profuse, and made their appearance twice every month, hardly leaving an interval of four or five days between the cessation of one period and the commencement of another; she also suffered from a return of the cough, oppression, anorexia, nausea, &c.; while the debility and emaciation made continual progress. Dr. Patin was now consulted, and directed the acetate of ammonia in the dose at first of fifteen, and afterwards of twenty-five drops, morning and evening. The catamenia gradually lessened; at the expiration of three months they had become menstrual, and were limited to a period of four days. The other symptoms also insensibly disappeared, with the exception of the cough, which continued, but in a much less degree; and, at the present time, six months after the cessation of the treatment, the menses continue to be regular, and flow from six to eight days.

Case 5th.—A married woman, a seamstress, æt. 37, who had always menstruated copiously, had had six successive abortions from the second to the seventh month of pregnancy, always followed by alarming hemorrhagies. In August and September, 1827, the menses assumed a menorrhagic form, and lasted the first period fifteen, and the second seventeen days; they were accompanied with a dry cough and sense of oppression, the violence of which was in exact proportion to the profuseness of the discharge. She escaped the October period, but in the following month the discharge returned and continued till February; it was at first small in quantity, but afterwards became much more abundant, being daily augmented by assiduous employment and the late hours she observed. The genital organs were the seat of an intense heat, which often extended throughout the abdomen; the cough and oppression increased; the appetite disappeared; nausea and vomiting supervened; and emaciation and debility advanced apace.

In February there was a cessation of the discharge and other symptoms for the space of twenty days, but towards the latter part of the month it returned with more violence than before, so much so as to wet daily eight or ten chemises which were folded and placed so as to receive it, and continued throughout the months of March and April. Dr. Patin saw her for the first time in the beginning of May: at this period the emaciation was extreme; skin hot and dry; pulse frequent, small, filiform, and yielding to the slightest pressure; dry and frequent cough; constant oppression; hemorrhage, accompanied by coagula; burning heat throughout the pelvis; acute pain in the right iliac region whenever she felt a desire to void her urine, and especially during its emission; anorexia; obstinate constipation; violent pain in the region of the stomach, and between the shoulders; intense thirst; incessant nausea, and frequent vomiting of mucous matter,—greatly tormented the patient. The lower part of the abdomen was tense and very painful; the cervix uteri appeared hot, soft, much developed, and very tender to the touch, the slightest pressure occasioned a discharge of blood. Notwithstanding the exhaustion of the patient, her venereal propensities were very strong.

The treatment consisted in the application of a blister to the arm, and astringent applications to the lower part of the abdomen. No benefit resulting, the blister was directed to be kept open, absolute rest enjoined, and a horizontal position, emollient beverages, and the acetate of ammonia in the dose of forty drops three times a day, were ordered. A great improvement speedily took place; after the lapse of four days, the uterine heat, the tension and pain of the hypogastrium, the fever, cough, vomiting, &c., had almost entirely disappeared; the quantity of blood discharged was diminished three-fourths; two days later there remained only a slight discharge, which yielded immediately to an injection of red wine in which rose leaves had been infused. The salacious disposition of the patient appeared to have been much lessened by the medicine.

With the aid of a good appetite she made rapid advances in the recovery of her strength, but in consequence of having fatigued herself in walking on the first of June, the sanguineous discharge reappeared, with all the symptoms above mentioned. The patient, of her own accord, had recourse to the vinous injections, but they only had the effect of aggravating the symptoms, and the assistance of Dr. Patin was again requested. The acetate was immediately given, at first in the quantity of sixty, and afterwards of seventy drops, four times a day. The effect was almost instantaneous; a perceptible improvement took place in the evening of the first day, and at the end of twenty-four hours there remained only a slight sanguineous discharge, which yielded to the first vinous injection.

After some general reflections upon the modus operandi of the acetate, its dose, safety, &c., Dr. Patin concludes his memoir with an enumeration of the diseases to which it is applicable.

1st. To cases of painful menstruation, though some degree of care is required in its employment, since it diminishes the quantity of the discharge.

2d. To cases of profuse catamenia and uterine hemorrhagies, affections in which he has obtained the most remarkable results.

3d. To cancers of the uterus, in which disease it will prove at least a powerful palliative.

4th. To nymphomania. Its supposed efficacy in this affection rests upon its influence in case fifth.

It is also recommended in threatened abortion, when this accident is constitutional, and depends upon a too great determination of blood to the uterus; in inflammation of the uterus and ovaries; in the different organic lesions of these parts; in a word, in every case in which there exists sur-excitation of the genital system of the female. Care, it is stated, will be required, lest the uterine action be reduced below its natural standard.

From the London Medical Gazette.

OPERATION OF BREAKING DOWN CALCULI IN THE BLADDER.

To the Editor of the London Medical Gazette.

Sir,—If you consider the following remarks on the operation of *Lithotrity*, or the destruction of the stone in the bladder, of sufficient importance for insertion in your Journal, they are very much at your service.

Like most other novelties in the departments of medicine or surgery, the efficacy of the operation of destroying the stone in the bladder has, perhaps, been too much exaggerated by its inventors; one of whom, in particular, has held it up as easy of application in almost all cases, even when the calculus is large, or when they may be met with in great number. These brilliant prospects have, however, been found illusory by many who have attempted the operation, and who, but imperfectly acquainted with its manœuvre, or provided with bad instruments, have totally failed in breaking or even seizing the stone; which, together with the unfortunate results of some cases in this country, may tend to bring into disrepute, or consign to oblivion, a mode of cure which, when properly applied, and considered in all its bearings, is one of the most precious discoveries that has enriched the domain of surgery; and which has been declared, by the Royal Academy of Sciences in Paris, to be "glorious for surgery, honourable for its authors, and consoling for humanity."

Before entering into the detail of this operation, it will perhaps be better to give a short description of the instruments employed, and these are extremely numerous; but I shall confine myself to those of MM. Amussat and Civiale, as being the simplest and the strongest—two great points in an apparatus of this nature. Much dispute has arisen about priority of invention, but being unable to settle this matter, I shall merely notice what I consider to be practically useful, from whomsoever it may have arisen. The instrument, properly so called, consists of two canulæ, an external and an internal, which latter bears the name of *litholabe*. The external one is a tube of eleven inches in length, made of gold, silver, platina, steel, or copper. The one I employ, of steel, is sufficiently strong to resist any force; and the only use of the external canula being to close the branches of the litholabe, perhaps this metal ought to be preferred. Its ordinary diameter is of three lines, but it may be used of two, three and a half, or four, according to circumstances. At one extremity is fitted a small copper box, to prevent the urine from escaping during the operation. The second canula, or litholabe, which moves in the interior of the first, is of steel, divided at one extremity into a varied number of elastic branches, from two to six, which are closed by forcing the external tube upon them, and open by their elasticity when it is withdrawn. A litholabe of three branches is found to be most convenient, two being quite insufficient; whilst a greater number are only embarrassing. The end opposite to the branches is, as the external canula, provided with a small copper box, which answers also the purpose of retaining the urine or injection in the bladder during the operation. This part of the litholabe has, in addition to the box, a graduated scale, which indicates in a precise manner the extent to which the branches are opened in the bladder. The next part of the apparatus, that destined to break the stone, is the one which has undergone the greatest number of improvements, and presents those numerous varieties with which the ingenuity of different operators has furnished it. This instrument, to which the French have given the name of *forêt*, *lithotriteur*, or *fraise*, I shall call perforator; it is six lines longer than the litholabe into which it is introduced. Of its varieties I shall only mention those in actual use. The most simple is the perforator, employed and invented by M. Leroy, being merely a plain steel rod, of sufficient thickness to fill the canula of the litholabe, and to rotate freely in it; the vesical extremity armed with teeth, and the opposite one having a graduated scale, by which is ascertained the thickness of the calculus when seized. This lithotriteur is merely of use, in my opinion, to perforate the external layer of certain alternating calculi, which is sometimes extremely dense; and being passed into the litholabe, not from the vesical, but from the opposite extremity of the instrument, can be replaced by another, which attacks the stone by a large surface, and destroys it more certainly and more rapidly than any I have yet seen, without moving the calculus or the instrument; so that the second perforator is sure to be passed into the hole made by the first which it gradually widens, and at length, in destroying from the inside outwards, reduces the stone to the thinness of an egg-shell, when it may be crushed between the branches of the litholabe. The fraise to which I allude is also, in appearance, a plain steel rod; but when in the bladder it may be opened to an extent of from four to fourteen lines at its vesical end, by means of a screw placed at the other extremity.

The perforator used by M. Civiale is similar to that of M. Leroy, except that, instead of being of the same diameter throughout, it is surmounted with a head, which, increasing the size of the surface armed with teeth, destroys the calculus with more rapidity than the single rod of M. Leroy. The fraise of M. Amussat differs from that of M. Civiale in one particular only, *i. e.* in having a small hole through the centre; thus converting it into a strong steel tube. The superiority of this instrument consists in its allowing the injection of water into the bladder without withdrawing it. It also facilitates the operation of grinding, as the teeth of the perforator become choked and clogged by the detritus of the stone, which the injection washing away facilitates the motion and efficacy of the instrument.

The only perforator remaining to be described is the double one of Amussat, the intention and effects of which are precisely the same as of that before described; it differs, however, in its mechanism, and is introduced from the vesical extremity of the litholabe, *i. e.* before it is passed into the bladder, lying concealed between the closed branches of the instrument. The perforators of MM. Amussat, Civiale, and Leroy, are worked with a bow as a common drill, which may be replaced by a handle, similar to that of a malt or coffee mill, at the pleasure of the operator. The instrument I employed is a sort of compilation from all, as each one described will be found superior as the stone may be large or small, dense or pliable.

The operation of destroying the stone in the bladder, without having recourse to cutting instruments, does not seem to be of modern invention, though of modern perfection. In the surgical dictionary of Haller, the design of an instrument, given by Sanctorius, is alluded to, with three branches, containing a perforator, in form of an arrow, by which to break the stone, and withdraw the fragments by means of the branches: "speculationem puto meram" was the opinion of Haller upon this invention.* The examples of Colonel Mackie, and the Monk of Cikaux, will be recollected; the former of whom succeeded in destroying his calculus by a steel sound, the convexity of which was roughened like a file.† The latter employed a similar instrument, the point of which he rested upon the stone, and striking it with a hammer, chipped daily a small piece from the concretion, which, passing off with the urine, at length cured him of his disease.‡ The establishment of this procedure, as a method, among surgical operations, is certainly due to M. Gruithuisen, a German author, who published an essay upon this operation in the Gazette of Saltsbourg in 1813; since which time it has undergone numerous modifications, particularly in Paris; so that it appears at the present day hardly capable of improvement. Before attempting the operation, it will be necessary to examine if the patient be in that state which may be favourable to its employ. The kidneys, bladder, and prostate, should be healthy, and the latter not enlarged; the urethra, free from stricture, should bear, without inconvenience, the presence of a sound, and the introduction of a straight one. The stone must not be too large, neither should there be more than three or four. The operation is likewise impracticable if it be adherent or encysted. When, in addition to the circumstances just enumerated, the general health of the patient is good, the operation may be proceeded to with every possible hope of success. An antiphlogistic regimen should be observed for some days previous to the commencement of the preparatory treatment, which consists in accustoming the urethra to the presence of a foreign body; and for this purpose the daily introduction of bougies, for a week previous to the operation, suffering them to remain in for ten minutes each day, will be found sufficient in all ordinary cases.

It will be proper to commence with one of two lines in diameter, and gradually increase it to three and a half, or four, that of the external canula of the instrument most commonly used being three lines only; this will then pass with the greatest facility, and the patient suffer no inconvenience from its remaining in the canal. The preparatory treatment being completed, the patient is to be placed on a hard bed, with the legs separated, and placed upon two chairs; the pelvis raised considerably higher than the back, and supported in this position by a cushion, pillows, or a sheet repeatedly doubled. The object of raising the pelvis in this manner is to throw the stone into the fundus of the bladder; to which position it naturally falls when the sacrum is thus elevated. This is one of the most important points to be observed in the manual of this operation; and to the ignorance or non-observance of it many of the failures, in not seizing the stone, may be attributed. A common catheter is now to be passed into the bladder, and a quantity of warm water, or emollient decoction, injected through it, sufficient to fill this viscus. When the parietes of the urinary pouch are but moderately distended by the injection, it will be found that the danger of pinching its coats by the branches of the litholabe (almost the only one to be feared in this operation, and certainly the greatest) will be very much diminished, and when it is fully so, absolutely done away with. After the injection has been sufficiently made, the catheter is to be withdrawn; and the instrument, well covered with white of egg, introduced in the following manner.* The penis is to be held in a direction midway between total relaxation, and the position of this organ, when held in contact with the abdomen; or, to speak more accurately, it should form, with the axis of the body, an angle of about sixty degrees. The instrument held in the right hand, after the manner of a common catheter or staff, is to be passed gently, impressing upon it slight movements of rotation, which enable it to glide with greater facility, until its further progress is arrested by some obstacle. The canula has now arrived at the commencement of the prostatic portion of the urethra, and to force it on, with the beak in this direction, would only endanger the rupture of the parietes of this canal. The penis must be gradually depressed to the level of the horizon, or even as far as fifty degrees below that point; at the same time employing a very gentle pressure, and following up the rotatory motion, the instrument penetrates the bladder without the least difficulty. The stone is now to be sought for in the ordinary manner, and its situation being ascertained, the point of the litholabe is to be placed upon it, whilst the operator draws towards himself the external canula; which developing the branches of the instrument, the stone is found placed between them. Holding, then, the internal canula firmly with the right hand, he gradually closes the branches upon the stone, by pressing forward the external tube. The calculus, being seized, is to be fixed by means of a screw placed upon the external canula; which, pressing upon the litholabe, renders these two parts of the apparatus unmoveable. In commencing the perforation of the calculus it will be necessary to rotate the perforators slowly, to prevent any jerking motion, which might probably be produced from a rude attempt. The destruction of the calculus may be continued from five, to eight, ten, or fifteen minutes, according to the feelings of the patient. In order to withdraw the instrument, the canulæ are to be unscrewed; the external one to be drawn towards the operator to free the stone; and afterwards forced forward upon the litholabe, to close the branches. During the day of the operation, many of the fragments, and much of the powder of the stone, are voided with the urine; and the following one the patient is in a state to follow his ordinary occupation. If required, the operation may be repeated after an interval of four or five days.

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* Bibliotheca Chirurg. vol. i. page 313.

† Journal of the Royal Institution of Bombay. The plate of this instrument will be found in Dr. Marcet's work on Calculous Disorders.

‡ Rapport fait à l'Academie des Sciences, par Percy. 1824.

* The limits of this paper will not allow me to enter into the anatomy of the urethra, as connected with the introduction of straight sounds; suffice it to say, that at all times, in the adult, when the passage is healthy, and the prostate not enlarged, it is accomplished with as much facility as that of a curved one; and presents over it a marked advantage in examining every part of the bladder. To my own experience on this point I may add the testimonies of Lieutaud, Lassus, Santorelli, Leroy, Amussat, Civiale, Key, &c. &c.

In some cases one application will be sufficient: these are, however, comparatively rare, the number of attempts varying with the size and nature of the stone. I should never have recourse to this method in persons whose calculus is so large, or constitution so irritable, that the application of the instrument would become too frequent. In the catalogue of cures given by M. Civiale, the longest duration of the treatment was three months; but in ordinary cases, or on an average, I consider six weeks to be the term occupied in the treatment and cure of the patient. From what has been said, it will, I think, be evident that lithotrity, in all cases where it is applicable, is preferable to the performance of the lateral, bilateral, or high operations; and I feel convinced that it will, in a considerable degree, diminish the intensity of human suffering. I should never advocate it as a general method, proper for all cases, but where application is made immediately on the discovery of the disease, or in the states I have previously alluded to, I am certain a cure may be obtained; in fact, experience proves it. I have not time or space sufficient to answer the objections to this method, which I have very hastily, imperfectly, and cursorily described in its generalities only; but in a work which I am preparing for publication on this subject, I hope to enter more fully into all its details. I remain, Mr. Editor,

Yours very respectfully,
S. W. Langston Parker.

142, *Snow-Hill, Birmingham, Nov.* 23, 1828.

From the Repertoire General d'Anatomie, &c.

NOTE ON THE TRUE ORIGIN OF THE NERVE OF THE TENSOR TYMPANI.

By M. Breschet.

It is generally supposed that this muscle receives a nervous filament from the portio dura or facial nerve. M. Breschet, however, has shown that this is not the case, and that it is supplied by a ganglion adherent to the inferior maxillary nerve.

At the posterior and inferior part of the foramen ovale, there exists a nervous ganglion of considerable size, irregular in shape, of a reddish gray colour, and strongly adherent to the inferior maxillary nerve. This ganglion, which has recently been carefully described by M. Arnold, prosecteur to the university of Heidelberg, is surrounded with fat, fibrous tissue and minute vessels, so that it is very difficult to isolate it completely. From the posterior and superior part of this ganglion, two filaments are sent off at the distance of about a line from each other. The first of these filaments, or the superior, has already been described—it is that which goes to form the nervous anastomosis of Jacobson; the other, or the inferior, is destined to the tensor muscle of the membrana tympani; it is not very delicate; its nervous structure is very easily recognised; it passes backwards and a little upwards, and after a course of three or four lines, it gains the external and posterior surface of the tensor muscle; it continues its progress along the surface of this muscle till it arrives at the spot where it becomes entirely fleshy; here it divides into numerous filaments, which penetrate between, and lose themselves upon the muscular fibres. This nerve corresponds to the internal part of the middle artery of the dura mater, and to the superior part of the eustachian tube, at the place where the osseous part of this canal unites with the cartilaginous portion; it is situated beneath, and parallel to, the nervous filament which goes to form the anastomosis of Jacobson, and above the spinous process of the sphenoid bone.

To get at the nerve, after having sawed the cranium and removed the brain with the lower jaw and zygomatic arch, make two incisions in form of the letter V, with the branches turned upwards, and the angle corresponding to the foramen ovale. The first incision should extend from the posterior extremity of the petrous portion of the temporal bone, to a little distance without the foramen; the second, from the external parietes of the orbit to the same spot; by which means a triangle of bone will be removed. This done, carefully remove the portion of bone which still covers the inferior maxillary nerve, in order to expose the part of this nerve which passes through the foramen ovale. The fat which surrounds the nerve must next be removed, and on searching immediately beneath the dura mater, between the superficial vidian nerve and the tensor tympani, the anastomotic filament of Jacobson will be seen coming from beneath the muscle, out of a small osseous canal, to terminate in the ganglion in question. This filament will serve as a guide, for immediately behind it the nerve appropriated to the tensor tympani has its origin.

M. Breschet has availed himself of the assistance afforded by comparative anatomy, in the elucidation of this subject, and has examined the nerve in the dog, horse, calf, and rabbit; it is in general more distinct and more readily found in these animals than in man; in all it arises concurrently with one of the anastomotic nerves of Jacobson, from a ganglionic enlargement situated beneath the inferior maxillary nerve. In dogs of a medium size, it is nearly an inch in length, and runs above, and in the direction of, the eustachian tube. In the greater part of its length, it is connected by cellular membrane to the filament of Jacobson; having reached the tympanum, it separates from it to pass through a very delicate osseous lamella, which covers the tensor tympani, and is distributed to the fibres of this muscle; as the muscle is here round, collected, and entirely fleshy—circumstances which are observed in the greater number of the mammiferæ,—the distribution of the nerve is very evident and distinct: in man, on the contrary, in whom the muscle is long, slender, and mixed with aponeurotic fibres, the same distinctness does not exist.

In the horse the nerve is nearly an inch in length, and also arises, together with one of the anastomotic nerves of Jacobson, from a ganglion situated beneath the inferior maxillary nerve, and is distributed to the tensor tympani, which in this animal is of considerable size; but as it passes through much fibro-cartilaginous tissue, its dissection becomes difficult.

In the calf and the rabbit the same disposition exists relative to its origin, connexions, and termination; in the first of these animals it is nearly an inch and a half in length, while in the second it is only a few lines.

From what has been said, it results that the nerve of the tensor tympani has its origin in the ganglionic, and not, as has been supposed, from the cerebro-spinal system. The ganglion which furnishes it, is an appendage of the semilunar ganglion, of which, in some animals, it appears to be merely an extension. It receives one or more filaments of the great sympathetic concurrently with the ganglion of Gasser, in which the greater number of the nervous branches of the carotid plexus terminate. This disposition is particularly apparent in the large animals, such as the horse and ox, in which the sympathetic nerve appears to terminate in the semilunar ganglion of the fifth pair. At the same time that numerous filaments of the carotid plexus unite with this ganglion, one or more of the same plexus are distributed to the ganglion which gives origin to the nerve which supplies the tensor tympani, a circumstance which should place this ganglion in the same category with those of the great sympathetic.

This anatomical disposition is altogether accordant with what sound ideas in physiology would lead us to anticipate. The tensor tympani is not subjected to the influence of the will; its action is analogous to that of the muscles of organic life—to that of the muscular fibres of the digestive tube, of the bladder, heart, &c.

From the Lancet.

ANEURISM OF THE INNOMINATA AND CAROTID. Communicated by Mr. WARDROP.

Aneurism of the Innominata and Root of the Carotid, successfully treated by Tying the Carotid Artery. By D. EVANS, Esq., Surgeon at Belper, Derbyshire.

William Hall, ætat. 30, a butcher and horse-dealer, an athletic and spirited young man, about five feet six inches high, has been accustomed to laborious exercise, frequently riding from 70 to 100 miles a day, and has always enjoyed excellent health, until the appearance of the following symptoms:—About 14 months ago he was seized with shortness of breath, troublesome cough, and tightness over the chest, after much exertion, especially in walking fast up a hill. These symptoms continued until the 6th of March, when he had an attack of bronchitis, which he attributed to cold. His expectoration was copious, consisting of mucus slightly streaked with blood, and his cough came on in violent paroxyms, which were followed by a sense of suffocation.

On the 10th of March, after a fit of coughing, a soft pulsating tumour, about the size of a walnut, suddenly made its appearance behind, and extending a little above the right sterno-clavicular articulation, and covered, externally, by the sternal portion of the sterno-mastoid muscle. The tumour was greatly diminished by firm pressure, but could not be made to disappear entirely.

The pulsation of the tumour, which was synchronous with that of the heart, was increased in force by pressure upon the right subclavian artery, and was diminished, and sometimes completely arrested, by pressure upon the right carotid, above the tumour. The pulsations of the right carotid, and subclavian arteries, were stronger than those of the left; but there was no apparent difference in the pulsations of the radial arteries.

As soon as the tumour made its appearance, the cough and dyspnœa ceased to be troublesome, and his health was re-established. His chest sounded well upon percussion, and the respiratory murmur was distinctly heard all over it. No unnatural pulsation could be detected, by the use of the stethoscope, between the tumour and the heart. A loud and powerful pulsation was heard over the tumour, unattended with any unusual sound.

In taking into consideration the situation of the tumour,—its sudden appearance, after a violent paroxysm of coughing, and its soft pulsating character, together with the symptoms above enumerated,—little doubt could be entertained of its nature, and I concluded that the root of the carotid artery was the seat of the disease.

Considering this a favourable case for the operation lately revived, and so ably advocated by Mr. Wardrop, I was induced to obtain the opinion of two eminent surgeons in London respecting its propriety. Both, however, disapproving of the operation, it was, therefore, determined, with the approbation of my friends, Mr. Bennet, and Mr. Brown, of Derby, that a fair trial should be made of Valsalva's plan of treating aneurisms.

The nature of the disease was fully explained to the patient, who, fortunately, was a man of strong sense and most determined resolution, and, from his employment leading him to study the diseases of horses, there was no difficulty in making him comprehend the dangerous tendency of the disease. He therefore submitted, with perfect confidence, to the proposed plan of treatment; and I cannot sufficiently admire the fortitude and cheerfulness with which he bore the long privation which it was necessary to enforce, and the implicit faith which he placed in all the remedies adopted for his relief.

April 3. He was accordingly ordered to bed, to be bled, to the extent of eight ounces, every third day; his diet to consist of small quantities of gruel, broth, and tea. Small doses of digitalis were likewise administered. This plan of treatment was continued until the 13th of July. During the first month, there appeared some little improvement; his pulse was frequently as low as 47 in the minute, the tumour became harder, its pulsation less forcible, and more remote; from which it was supposed that coagula might be forming. The blood hitherto had seemed perfectly healthy, and it was noticed that, if the bleeding were delayed beyond the usual time, the symptoms were aggravated.

In the beginning of May, a great alteration, for the worse, took place, which was supposed to be owing to his taking a small quantity of animal food. The blood, after each bleeding, became buffed; pulse 80 in the minute; the tumour rapidly increasing in the course of a few days, and becoming very painful upon pressure. Twenty leeches were applied, without any relief. A few days afterwards a diarrhœa supervened, the inflammatory state of the tumour abated, the pain ceased, and the swelling, in some degree, subsided. After this attack, his pulse was never less than 80 in the minute, although the same plan of treatment was rigidly adhered to.

From this time until the 1st of July, the tumour remained stationary; but, from the latter date, until the 20th, he gradually got worse; the tumour increased, and now reached as high as the cricoid cartilage, and, by its pressure upon the trachea and œsophagus, partially impeded respiration and deglutition. His shirt-collar, which, prior to his illness, would button comfortably, could not now be made to meet by more than three inches; his countenance became bleached; pulse more feeble; and it was evident that the lowering system had been carried as far as it could with safety.

Under these circumstances the operation was recommended, as the only remaining chance. Its advantages and disadvantages were fairly stated, and the chance of success, although small, made him anxious that it should be performed. Dr. Bent, of Derby, saw the patient on the 17th, and concurred in the propriety of the operation, as a last hope.

On the morning of the 22d of July, the day proposed for the operation, the patient became so agitated, that the pulsation of the tumour, of the heart, and the large arteries, especially the abdominal aorta, was perceptible to the eye. The operation was performed in the presence of Messrs. Bennet and Brown, of Derby; Mr. Ingle, of Ashby-de-la-Zouch; and Mr. Walne, of Chancery Lane, surgeons. In consequence of the tumour extending so high up the neck, there was some difficulty in getting down to the sheath of the artery, which was opened to the extent of half an inch. The artery appeared healthy, and was easily secured by a single ligature of strong silk. Immediately after tightening the ligature, the pulsation in the different branches of the external carotid artery ceased, except a slight fluttering in the extreme branches of the temporal. The pulsation of the tumour continued without diminution.

23 and 24. He went on well. The pulsation in the tumour was stronger than it was before the operation, and the pulsation of the right radial artery was observed to be more forcible than that of the left.

25. He became feverish; pulse 120, and full; the right lip of the wound swollen and painful. Six ounces of blood were taken away from the arm, and some saline medicine administered. The blood was much buffed.

26. Morning—Much better; pulse 92, stronger in the right radial artery than in the left; pulsation in the tumour still very forcible.

Evening.—The fever, and pain in the tumour, returned. He was again bled. Blood still buffed.

27. Better again this morning. He was taken worse at nine o'clock in the evening. Pulse 100; delirous; anxious countenance, and sickness. No diminution in the size of the tumour.

28. Much better, and continued so all day.

29. At seven A.M. he was taken suddenly worse, and appeared to be dying; his countenance ghastly, and covered with perspiration; tracheal rattle, and inability to swallow. He appeared conscious, but could only speak in a whisper; pulsation in the tumour still forcible; the pulse in the right radial artery scarcely perceptible, whilst the left pulsated as strongly as it did the previous day. These symptoms were accompanied with a profuse ptyalism. He remained in this state for several hours, at the expiration of which time he rallied, and by the evening (with the exception of the salivation, which continued,) he appeared quite as well as on the preceding day.

As he continued to improve from this period, it will not be necessary to enter into a daily report of the case; I shall therefore content myself with noticing the most prominent symptoms which occurred. One of the most remarkable was the obliteration of the arteries of the right arm and forearm, which was first observed in the arteries of the forearm on the 29th of July, the eighth day after the operation, for until that day the arteries of the right arm pulsated with greater force than those of the left. The process of obliteration was attended with severe intermittent paroxysms of pain, chiefly felt in the course of the brachial and axillary arteries. The brachial artery, after its obliteration, was harder and painful to the touch, and felt very like an inflamed absorbent vessel. The right arm wasted, and became partially paralysed, and continued to diminish for three weeks, at the expiration of which time several arterial anastomosing branches were observed pulsating on the back of the arm. As these vessels enlarged, the limb improved very slowly, not having yet (Oct. 19) perfectly acquired sensation, nor its muscles the power of obeying volition.

On the 11th day after the operation, he was attacked with intermitting paroxysms of pain in the right side of the head and face, of the same character as the pain in the right arm, though not so violent: this pain ceased within a fortnight. The right side of the head and face became emaciated, and any one looking at him would immediately discover, that the right half of the face was much smaller than the left. The blood having since found its way into the temporal and facial arteries, the right side of the face is now nearly as plump as the left.

The ptyalism, which began on the 29th of July, continued until the middle of September, during which time he spat daily about a pint of saliva; a more generous diet, and a small quantity of ale, were then allowed, and the salivation subsided.

Three weeks after the operation he was able to sit up to his meals. The first time that he got out of bed, he perceived that the whole of the right side was numbed, and weaker than the left. The pulsation in the tumour, which had hitherto been more powerful than it was before the artery was tied, now (Aug. 15) began to diminish rapidly, and by the 23d of August, the thirty-third day after the operation, had so much subsided, that it was doubtful whether it arose from the passage of blood into the tumour, or from the impulse given to it by the subclavian artery beneath.

In five weeks after the operation, he was sufficiently recovered to be able to take daily exercise in a gig, or on horseback, and from this time he has continued to improve in his health, without interruption.

The obliteration of the right brachial artery is now complete, and above the insertion of the latissimus dorsi the pulsation of the axillary artery can be easily felt. The pulse in the radial artery is scarcely perceptible in the right arm, which increases daily, but is yet far from being of the size of the left. Sensation and susceptibility of the influence of volition are more perfect on the whole of the right side of the body, but still that side is more feeble than the left. The tumour is hard and firm, and has diminished about one-third since the operation. By pressing it from above downwards, a feeble, deep-seated pulsation is felt, but in grasping the tumour and using lateral pressure no pulsation can be perceived.

On the 13th of October the wound was nearly healed; the ligature had not come away, and as it acted as a source of irritation to the small wound, it was cut off level with the skin.

The most peculiar features which this interesting case presented were—1st, The obliteration of the arteries of the right arm; 2d, The profuse salivation; 3d, The disposition to paralysis of the whole of the right side of the body.

The two first symptoms commenced on the eighth day after the operation; I think there can be little doubt that the obliteration of the arteries of the arm was accomplished by inflammation extending from the aneurismal sac to the internal membrane of the subclavian artery, and thence to the brachial artery. Might not the active obliteration of such large arteries as those of the arm and forearm, be the cause of the unpleasant train of symptoms which occurred on the eighth day after the operation? The salivation appeared to be connected with the state of the digestive apparatus; for, as soon as ale, and a generous diet, were allowed, it gradually subsided. I am at a loss to assign the cause of the numbness and debility of the whole of the right side of the body, (which were only observed when he first left his bed,) unless they originated in a greater quantity of blood circulating in the left hemisphere of the brain than in the right, which undoubtedly would be the case after the application of a ligature to the common carotid. What tends to confirm this opinion is, that now, 13 weeks after the operation, the balance of circulation in the brain being re-established, the numbness and debility of the right side of the body have nearly disappeared.

In conclusion, it is worthy of notice, that, since the operation, he has become more irritable in temper, and his memory is evidently weaker.

So far as this case has yet proceeded, it amply justifies the operation; and the man probably owes his life to Mr. Wardrop's fortunate suggestion and example. Should any untoward circumstance occur, leading to any other conclusion, it shall be communicated.

It is now five weeks since he resumed his usual avocations, and he regularly attends the markets and fairs of Derby, a distance of seven miles.

Belper, Oct. 22, 1828.

From the London Medical Gazette.

PATHOLOGICAL ESSAYS ON SOME DISEASES OF THE HEART; *being the Substance of Lectures delivered before the College of Physicians.* By P. Mere Latham, M. D. Physician to St. Bartholomew's Hospital.

In the following essays it has not been my purpose to include every thing which belongs to the pathology of the heart, but only to discuss such parts of this important subject as have fallen especially within my own observation.

I have spoken first of the morbid anatomy of the heart strictly so called, or the changes wrought upon its structure by disease; and next of the circumstances declaratory of those changes, both while they are in the course of their formation and after they are completely formed.

Dr. Baillie, in his "Morbid Anatomy," has simply described the visible appearance of diseased structures, and subjoined a plain detail of certain symptoms resulting from them. I have ventured, in the present subject of inquiry, to go a little beyond the limit which Dr. Baillie assigned to himself: to a description of morbid structures I have added some explanation of the modes by which they are produced, and of the purposes which they seem to serve; and, with respect to symptoms, I have rather considered their general course and character, endeavouring to bring them into comparison with the essential morbid conditions out of which they arise, and thus to make the objects of clinical and of anatomical research manifestly illustrative of each other.

ESSAY I.—MORBID ANATOMY OF THE PERICARDIUM.

The anatomical characters of inflammation of the pericardium consist in an unusual degree of redness, appertaining to the membrane itself, in the presence of coagulable lymph adhering to its surface, and of fluid effused into its cavity.

If, in a case of recent inflammation, the coagulable lymph adhering to its surface be carefully detached, the pericardium will not be found uniformly red in every part, but traversed by arborescent blood-vessels, and dotted and speckled with innumerable scarlet points, leaving little intermediate spaces, in which the membrane still retains its natural colour.*

The coagulable lymph adhering to the surface may be deposited in distinct and broken patches, or it may assume the form of an adventitious membrane. The adventitious membrane may cover a small portion only of the pericardium, or it may serve as a complete lining to it, following its reflections both where it is loose and over the heart itself, and over the large blood-vessels.

This lymph varies in consistence, from the least possible degree of tenuity which can preserve a continuous texture, to the thickness of more than an inch. On one side, where it is applied to the pericardium, its surface is uniform; on the other it varies. Sometimes this latter is dotted all over with minute apertures, or pores, at regular distances, which give it a reticulated appearance, like delicate net-work. Sometimes it is intersected with lineal elevations, forming a grosser reticulation, not unlike the second stomach of the calf. Sometimes it is studded with minute tubercles; and sometimes rendered rough and very unequal by partial accumulations of soft flocculent matter upon it, like large pieces of sponge, or tow.

From the slight red tinge often observed in this adventitious membrane, it might be suspected that blood-vessels are continued into it from the pericardium. From its capacity of receiving injection from the coronary arteries, it is certain that they are so.

The fluid effused into the cavity of the pericardium in consequence of inflammation, varies very much in quantity: sometimes it does not exceed the quantity of fluid ordinarily found there, but its appearance will always show it to be the product of disease. Nearly four pints are mentioned, upon good authority, as having been found in a case of inflammation. I never found more than half as much. This fluid is sometimes of a clear lemon colour, and transparent; sometimes less transparent, from an intermixture of filamentous, flaky, or membranous substances; and sometimes not at all transparent, but like unstrained whey, from an intermixture of pus. In different cases it presents every tinge of red, from an intermixture of blood in various proportions, and sometimes it is a mere turbid serum.

These marks sufficiently denote inflammation of the pericardium. They are very obvious marks, and he who has seen them a few times only, will never be at a loss to recognise the anatomical characters of the disease. But merely to recognise the anatomical characters of the disease is to be still far distant from a knowledge of its pathology. A knowledge of its mere local pathology implies some notion of the purposes which nature intends by each of the processes in detail. The vascularity, the coagulable lymph, and the serum, have each their purposes to fulfil, and have each circumstances connected with them of great pathological importance, into which it may be useful to inquire.

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* Baillie's Morbid Anatomy, Pl. I. Fig. 3.

Of the many and complex phenomena which constitute inflammation, the first (or at least the first which is cognizable to the senses) is an undue determination of blood to the part. Vessels which naturally contain blood are now distended and overloaded with it, and vessels which naturally contain none at all, and are consequently invisible, now become conspicuous from their redness.

This is the morbid condition inceptive of inflammation, without which it cannot exist.

But undue vascularity may exist without this consequence: for, in truth, it is inceptive of other morbid conditions besides inflammation —of hemorrhage, for example. I do not mean the hemorrhage which takes place from the rupture of a single vessel—this is a mechanical accident; but hemorrhage from the extremities of a million vessels at once. This is a morbid action. The hemorrhage ceases and the vascularity disappears, and the part resumes the visible conditions of health.

Further, undue vascularity may exist in a part and be inceptive of no disease whatever, but, on the contrary, may lead the way to some natural and healthy function which the part has recently assumed. I happened lately to be present at the examination of the body of a young woman who had committed suicide: among various morbid appearances there was this, which at first was thought to be morbid also—the uterus and its appendages were remarkably loaded with blood. Was this the beginning of an intense inflammation, or preparatory to a profuse hemorrhage? It was neither; for a most careful examination discovered the unequivocal evidence of recent impregnation. Unquestionably, the undue determination of blood was the result of the stimulus which the organs had recently sustained, and a necessary prelude to the important function which they were about to assume.

Again, undue vascularity may exist in a part, and may in itself constitute the whole disease—being a prelude neither to inflammation nor hemorrhage, nor to any extraordinary and healthy function newly assumed. For weeks, for months, for years, one or several organs may labour under this unnatural load of blood. It is a disease—it is an organic disease: but it does not necessarily give origin to any further change of structure than that which it constitutes in itself. In all these cases which have been mentioned the turgescence of the capillaries is the result of an active process, but of a process essentially different from inflammation.

It may be added, that turgescence of the capillaries may take place under pathological conditions distinct from all these, and still distinct from inflammation. Upon dissection, large red patches are often met with in various parts of the body, and especially in transparent membranes, which have nothing to do with any active process whatever. They are formed during the very period of dissolution. The mode in which death takes place, whether slowly or rapidly—the kind and situation of the disease which occasions death—even the position of body in which the patient dies, have something to do with the formation of them, by determining blood to particular situations, where it is detained from absolute failure of the powers that should move it onward.

During the life of the patient, when the disease is on the surface of the body, this redness and undue vascularity of which we speak has certain concomitants affecting the vital functions of the part—such as heat and pain—which are almost enough to satisfy us that it is of the nature of inflammation, before it has reached those unequivocal changes which authenticate its character. But when the disease is within the body, and the patient is dead, and its nature is to be determined by dissection, no certain opinion can be given as to the existence of inflammation, unless some of the products of inflammation are actually formed—such as lymph, or pus, or turbid serum.

These considerations require especially to be borne in mind when the question is concerning the anatomical characters of inflammation of transparent membranes; and, above all, of mucous and of serous membranes, to which latter class the pericardium belongs.

In the pericardium, then, be the excess of vascularity ever so great, it does not alone furnish sufficient evidence of inflammation: because, although there can be no inflammation without it, yet *it* can be without an inflammation.

If it be indeed an inflammation, the state of simple vascularity does not long exist before it is followed by other changes, which unequivocally mark the nature of the process in which the parts are engaged: a short period is sufficient to produce the effusion of lymph or serum. In less than four hours after the infliction of a wound, its edges have been found covered by a distinct layer of coagulable lymph.* In different textures of the same body vascular action preparatory to this effect, may vary as to its duration. It may vary too in different individuals, according to conditions of weakness and strength, of health and disease; and, finally, it may vary according to the cause productive of the inflammation, whether it be from within or without, spontaneous or inflicted. But, however this may be, it is certain that, in the pericardium and in the membranes of the same class throughout the body, the effusions and depositions proper to inflammation always follow very rapidly the inceptive process of determination of blood; and that sometimes they are almost contemporary with it.

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* Thomson, page 209.

The most unequivocal evidence of inflammation of the pericardium is the presence of lymph upon its surface. The form and quantity in which it is deposited have been already described; but concerning this lymph there are many circumstances, besides its form and quantity, which require to be attentively considered. The purpose which it is here intended to serve is the same which it answers in every part of the body where it is effused in consequence of inflammation; namely, that of adhesion. Adhesion between the opposite surfaces of the pericardium takes place in the same manner, and through the same medium, as it does between the opposite edges of a wound.

But adhesion sometimes does, and sometimes does not take place when there is lymph effused upon the opposite surfaces of the pericardium: and this difference of result has been ascribed to unequal degrees of vigour which may belong to the inflammation in different cases, rendering the lymph which it produces more and less apt for the purpose of adhesion—an explanation this, which is much too far fetched, when there is another, which is so much more obvious, at hand. If the edges of a wound are kept far apart from each other they cannot adhere, although the coagulable lymph be ready formed to serve as the medium of their union. And, in like manner, I have uniformly found, with respect to internal organs, that where opposite surfaces are covered with coagulable lymph, and yet do not adhere, a mechanical obstacle exists, rendering their adhesion impossible. Thus, when the pericardium is coated with lymph, and still remains loose, its cavity is always filled with fluid, which puts its surfaces at a distance from each other, and precludes the possibility of their union. It is not that the lymph itself is unfit for a medium of adhesion in the particular case, but because the serum which is secreted together with it, from the inflamed surfaces not being absorbed, keeps them asunder; and thus disappoints the very purpose for which the lymph is formed.

The observation of what dissection often discovers in other parts of the body confirms the truth of what is here advanced respecting the pericardium. I have often seen lymph, the product of inflammation, upon the peritoneum, contract adhesions in one direction and fail to contract them in another. Every part of the peritoneum has been lined with lymph; but adhesion has existed solely between the convolutions of the intestines, and not at all between the intestines and the walls of the abdomen; because a copious effusion of serum into the cavity has interposed, and effectually prevented it.

Now, adhesion is unquestionably a process of reparation, in whatever part of the body it may occur, even in the pericardium. The best event of inflammation is, that, after it has ceased, its lymph and serum, and all its products, should be absorbed, and the parts restored to their original healthy condition: and this event is especially desirable when the inflammation falls upon the pericardium; but this best event cannot be obtained at all times.

The inflammation may cease, but not until it has gone much too far in the disorganization of parts to allow them ever to recover their healthy structure. The inflammation may cease, but several of its products may remain. Lymph may still abide upon the surface, and serum in the cavity of the pericardium. Under these circumstances, the best event, now possible, is, that the opposite surfaces should adhere, and the cavity be entirely obliterated. And this adhesion is unquestionably a process of reparation; of tentative reparation, if you please, but still of reparation. It does not succeed in bringing back sound and healthy structure, but it does succeed in rendering the conditions of the disease less intolerable, and less incompatible with the continuance of life, than they would be if no such adhesion had taken place.

If there be lymph, and it fails to effect an adhesion, it soon becomes a secreting surface, and pours forth more and more fluid into the cavity of the pericardium; and accumulates more and more solid lymph upon itself: and thus the case quickly becomes desperate, and death rapidly ensues. But if there is lymph, and it succeeds in effecting an adhesion, life may still go on, and often does go on for years and years, although a mischief is done to the heart which is of enormous magnitude; tending more slowly, and by inevitable consequence, to the destruction of the patient in the end. This will be explained hereafter.

Some observations require still to be made respecting this process of adhesion after it has already taken place. By adhesion the cavity of the pericardium is entirely or partially obliterated. When the adhesion is universal, it is capable of sometimes being separated with very little force; one layer of coagulable lymph following the loose pericardium, and the other remaining attached to the surface of the heart, and each being of considerable thickness. Sometimes it requires more force to separate it; and the medium of adhesion is not seen to consist of more than a single layer of coagulable lymph, if it may be so called, which is often reduced to a thin web-like cellular tissue. Sometimes it is so intimate that separation can only be effected by help of the knife; and no uniting medium is apparent at all, but the folds of the pericardium itself seemed to have coalesced.

Now, how is it, that in different cases the lymph, which is the medium of adhesion, should vary so much in quantity; and how is it, that the adhesion itself should, in different cases, have different degrees of strength?

I am led to believe, from not a few anatomical examinations of the morbid conditions in question, that the adhesion of the pericardium is firm and close and intimate, in proportion to the period it has endured; and that the medium of adhesion is more and more attenuated in the same proportion. When you find two thick layers of coagulable lymph easily separable from each other, the history of the case will show that the time has not been long since the symptoms referrible to the heart first declared themselves. But when, having effected a separation only by help of the knife, you find the thinnest membranous tissue interposed, or are not certain whether you find even so much, you will be able, in the history of the case, to trace back the symptoms referrible to the heart for years and years.

Hence it should seem that a certain quantity of coagulable lymph is necessary to institute an adhesion, but that the same quantity is not necessary to make it complete and permanent; and that nature, having ensured her purpose, and used the substances which were essential to it, now seeks to remove the same substances when they can only serve as hindrances to its perfection.

The cessation of inflammation is a preceding condition, necessary to the absorption of the lymph. But in some instances, where a considerable period has elapsed, (a few months at least,) since the symptoms referrible to the heart first declared themselves, the lymph intermediate between the adhering folds of the pericardium has been found more than an inch in thickness, its texture being sometimes laminated, like the coagulum of an aneurismal sac, and red and fleshy near the heart, and paler or white more remote from it, and sometimes being of a mixed consistence, in part almost liquid and purulent, and in part solid and tuberculous.

These conditions are constituted of a concurrent process of disease and reparation: adhesion is effected, but inflammation continues in some degree. Adhesion has arrested the effusion of fluid into the cavity of the pericardium, and thus has respited existence for a while. But inflammation continuing, has produced an interstitial deposition: or rather, a deposition of lymph upon lymph, which will prove the destruction of the individual.

The cases in which this large accumulation of lymph has been found deposited between the folds of the pericardium, have been such, in their circumstances, as to bespeak the existence of an acute inflammation which has been half cured, or of an inflammation, less acute in degree, which has been entirely neglected.

When adhesions are formed by lymph partially effused upon the pericardium, and have become permanent, it seldom happens that a very close and intimate union results. The uniting medium becomes transformed into long loose cellular bands, which can hardly be conceived capable of exercising a restraint upon the natural movements of the organ. These partial adhesions, however, bear a very small proportion to those which are of the whole pericardium.

There are instances of partial, and yet very close and firm adhesions, where, in the intervening spaces, the surfaces of the pericardium lie in contact, and are ununited and apparently healthy. Again, there are instances of partial, and very close and firm adhesions, where, in the intervening spaces, the surfaces of the ununited pericardium are not in contact, and not free from disease, but covered with lymph, and engaged in the secretion of pus. Hence the heart becomes surrounded with numerous little separate abscesses.

It remains that we make some observations upon the fluids found in the cavity of the pericardium, which have already been mentioned among the evidences of its inflammation.

There are two sources of the fluid found in the cavity of the pericardium when it has been inflamed—the surface of the pericardium itself, and the surface of the adventitious membrane. Concerning both of these there is something to be remarked. Serum and lymph are concomitants in the process of inflammation, and are extravasated simultaneously from the same vessels. From it fluidity the serum is not confined, like the lymph, to the very part from which it is extravasated, but it escapes into any loose structure or cavity which is capable of admitting it. Thus, in inflammation of any part of the arm or leg, the serum is diffused through the surrounding cellular membrane, producing a state of œdema far beyond the real seat of disease. In inflammation of the tunica arachnoidea it escapes into the cellular tissue of the pia mater, and finds its way between the convolutions of the brain. In inflammation of the peritoneum it runs into the cavity of the abdomen, or penetrates the cellular texture between the coats of the intestines; and in inflammation of the pericardium it has nowhere else to go but into this cavity.

But, although in the process of inflammation serum and lymph are extravasated simultaneously, they do not disappear simultaneously, in the process of reparation. In external parts the œdema becomes more and more limited, until it is confined to a small space round the original seat of the injury; and at last disappears altogether: this denotes absorption of the serum. When the œdema, however, is gone, a hardness and thickening will still remain in the seat of the injury, denoting the presence of coagulable lymph; which more slowly, or perhaps never entirely, disappears. The course of reparation is the same after inflammation of the pericardium; the serum from its cavity is first absorbed, the lymph still remaining, which will be absorbed in its turn, or contract permanent adhesions.

But what happens if no reparation take place, or if it be checked in its progress; if the lymph remain, and yet there be no adhesion? Then new fluids are formed, different from that originally effused, and from a new source. They are purulent or sanguineous; and the source which supplies them is the coagulable lymph itself, which is now become organized, and supplied with a secreting surface. In the interstices of muscles, and in solid structures, the coagulable lymph takes the form of cavities, which are the recipients of the fluids which it secretes, and constitute abscesses. In the natural cavities of the body the recipient of the fluids is already formed; but the adventitious membrane of lymph, which lines them, is still the source from which they are derived.

Hence it plainly appears how the fluids effused into the pericardium in consequence of inflammation, as they are of different kinds, so they have two different sources; how, in one case, the fluid found in its cavity is that which is formed simultaneously with the lymph found upon its surface, and is supplied by the same blood-vessels; namely, by the blood-vessels of the pericardium: and how, in another case, the fluid found in its cavity is neither formed simultaneously with the lymph upon its surface, nor by the same vessels, nor by the vessels of the pericardium at all; but is subsequently produced by this very lymph through the agency of its own blood-vessels, which have already organized, and constituted it as much a secreting membrane as the pericardium itself.

In speaking of adhesion of the pericardium, I said that it was a termination of inflammation more desirable than this which we are now considering; namely, the effusion of fluid into its cavity from the surface of the adventitious membrane. This fluid, in its visible character, is either a purulent or a bloody fluid: and if it is of the nature of pus, is it not, in some way or other, connected with a process of reparation, since suppuration is said to be generally curative in its purpose and design? True! But this purpose, although it is successful in many parts of the body, in the pericardium is almost always cut short by death.

The fluid poured forth from the newly secreting surface assumes gradually only the sensible characters of pus. At first it is thin and scanty, and of the palest yellow colour. By degrees it becomes more consistent, more copious, and of a deeper yellow; until at length suppuration is perfected, and inflammation ceases. Now this is a long process, and it is not every part of the body that is able to endure it, and bring it to perfection. In some common textures of the body suppuration takes place, and complete reparation follows. In some, even vital organs, suppuration takes place, but, owing to peculiarities of their functions or structure, the curative purpose ultimately fails. But the heart is seldom able to sustain the irritation of the process for the time requisite for it to arrive at suppuration. Dissection often finds the pericardium filled with a fluid which is beginning to assume the purulent character, but hardly ever with actual pus.

When the fluid effused into the pericardium has a tinge of blood, it denotes, I conceive, an inflammatory action still continued in, or imparted afresh to, the newly formed, and newly organized coagulable lymph. Newly formed, and newly organized structures, are very apt to pour forth blood upon any considerable excitement; and under these circumstances are found loaded with blood-vessels. I once found upon dissection the cavity of the pericardium filled with pure and unmixed blood, and its surface entirely lined with coagulable lymph, of which that portion which covered the heart itself was as red as the gills of a fish, and, from its numerous lineal elevations, not unlike them in other respects. The hemorrhage, for such it really was, was considered to be owing to a secondary inflammation of the adventitious membrane.

The various morbid conditions and changes of structure, which have been described as incident to the pericardium, are the common product of inflammation, according to various degrees and modifications; but, like other membranes of the same class, as the pleura and the peritoneum, it is liable to become the seat of what is called specific disease. Thus, it is sometimes found studded with scrofulous tubercles, and sometimes converted into bone.

Scrofulous tubercles in the pericardium, when they occur, are generally coincident with tubercles of the same character in other parts of the body, and especially in the lungs.

Ossification of the pericardium is a very rare form of disease. In the specimens I have met with, the manner in which the bone has been deposited has been very peculiar: it has constituted one large plate or ring, running round the heart; or even a sort of case, which has nearly enveloped the whole organ. From this ring, or case of bone, processes sometimes are given off, which penetrate the substance of the heart, and reach even to its cavities.

Laennec met with an instance in which this sort of bony case was formed around the heart, and gave off processes, which penetrated its cavities in the manner described: and he satisfied himself by dissection, that the morbid growth was developed between the fibrous and serous layers of the pericardium, since he was able to separate it, and still leave the heart covered by the serous fold of its investing membrane.*

From the London Medical Gazette.

OBSERVATIONS RELATIVE TO THE RUPTURE OF THE TENDON OF THE BICEPS, *at its Attachment to the Edge of the Glenoid Cavity.* By Edward Stanley.

In the fourteenth number of the Gazette, my friend Dr. Knox, of Edinburgh, has described an altered condition of the tendon of the biceps, combined with appearances in the shoulder joint, indicating the change in the tendon to have been the result of disease.

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* Laennec, vol. ii. 675.

In two instances I have found, upon dissection, the tendon of the biceps separated from the edge of the glenoid cavity, and firmly adherent to the humerus at the margin of the bicipital groove; but there was no other unusual appearance of the parts, either in or about the joint. In a third instance I found the tendon of the biceps dislocated from its groove, and resting upon the great tuberosity of the humerus. A membranous sheath attached to the humerus, and extending around the tendon, confined it in its new situation. This sheath was polished on its internal surface; it served the purpose of facilitatng the play of the tendon, and its formation may be presumed to have been analogous to that of the capsule enclosing the ends of a fractured bone, when free motion of them has been permitted, the cellular tissue, in either case, becoming condensed and modelled into a perfect bag, the inner surface of which resembles the synovial membrane by its polish, and by its secretion of a lubricating fluid.

It may be a question whether, in these instances of rupture and displacement of the tendon of the biceps, there had been a dislocation of the head of the humerus. In two specimens of this dislocation which I have dissected, the tendon of the biceps is entire, and that it usually is so in dislocations, may be inferred from the fact, that a diminution of the power of the biceps, such as would arise from the loss of its attachment to the glenoid cavity, is not among the ordinary consequences of the accident.

A gentleman, slipping from the footpath into the carriage-way, struck his shoulder against the curbstone, and at the same time twisted his arm inwards and backwards. Severe pain in the joint, and an inability to put the biceps into action, were the immediate consequences of the accident, and in a few hours there was an effusion of blood into the subcutaneous cellular tissue, but confined to the tract of the biceps muscle. Further, the slightest movement of the arm backwards was followed by acute pain, precisely in the situation where the tendon of the biceps turns over the head of the humerus. A rupture of this tendon was supposed to have taken place, and the arm was accordingly confined to the chest in a position fit to secure the quietude and relaxation of the biceps, but it is was not until many weeks had elapsed that the least remission of the confinement of the arm was permitted, without the recurrence of acute pain in the joint in the situation of the tendon. Eventually, the recovery of the arm was complete.

For the following case, I am indebted to a gentleman at present attending the lectures at St. Bartholomew's; it occurred in the practice of his father, Mr. J. Jenkins, of St. German's, in Cornwall.

A man, aged 53, engaged in a scuffle, fell upon his arm, which was at the instant drawn backwards in the act of grappling with his opponent. He instantly felt as if something had given way in his shoulder, and soon afterwards discovered his inability to raise his hand to his mouth. Two days after the accident he applied for surgical aid, when it was observed that the most gentle application of the fingers towards the head of the humerus, between the coracoid process and acromion, and lower down the arm, in the course of the biceps, produced acute pain, and in no other situation was pain excited, either by pressure of the joint or by free movements of the arm. The biceps was retracted, soft, and flaccid, and it could not be made to contract. Under these circumstances, a rupture of the tendon of the biceps was suspected. The arm was confined in such a position that the hand was directed towards the opposite shoulder, and a roller was carefully applied around the arm from below upwards, with the view of approximating the ends of the tendon. Perfect quietude of the arm was maintained for four weeks: gentle motion of the shoulder was then permitted, and by gradually-increasing efforts, the patient recovered, in a few weeks afterwards, the power of the arm so completely that he was able to resume his business as a miller.

The case next related I had the opportunity of seeing with Mr. Wormald, to whom I am indebted for its particulars.

A woman, aged about 35, slipped down in the street, and in falling, extended her arm. The consequences of the accident were, acute pain in the shoulder, on attempting to bend the elbow or raise the arm, and upon pressure of the joint in the situation where the tendon of the biceps turns over the head of the humerus. A rupture of the tendon of the biceps was suspected, and the treatment accordingly directed. In about four weeks, pressure of the the joint could be borne without pain; but the power of the biceps was not yet completely restored. The effect of bending the fore-arm was attended with a peculiar spasmodic and vibratory movement of that part of the biceps from which the long head is continued, and which was distinctly felt by the hand placed against the arm.

It must be admitted that the preceding cases go very far towards proving that certain movements of the arm forcibly made may occasion a rupture of the tendon of the biceps at its attachment to the glenoid cavity without other injury, and it has appeared to me desirable that the attention of surgeons should be excited to the probability of such on occurrence. The rupture of the tendon might happen without external violence, merely from a twist of the arm. Should it be mistaken for a simple bruise of the shoulder, the surgeon will be disappointed in the result of the case, as the time required for the reparation of the injury will be more considerable than he had expected. The reunion of the torn ends of the tendon will be prevented by the retraction of the muscle. The reparation of the injury must then consist in the adhesion of the tendon to the head of the humerus, to which result the treatment of the case should be especially directed.

From the Journal des Progres des Sciences et Institutions Medicales.

CASE OF ENCEPHALITIS.

By M. L. Martinet.

Julien Meunier, æt. 25, of fair complexion, robust constitution, and by trade a locksmith, had always enjoyed good health up to the age of 14 or 15, when he was attacked with hæmicrania, which recurred regularly every month. On the 5th of March, 1827, Meunier conceived a violent chagrin at being obliged to separate from his wife, who, in order to provide for her support, had gone out to service; immediately afterwards he was attacked with the following symptoms.

While at breakfast, the right arm and leg were suddenly seized with numbness, accompanied with a semi-paralysis of motion, and he fell upon his knees. He had several falls in the course of the day, during which he continued in a state not unlike intoxication, and was affected with a numbness of the right leg and foot. In the evening he was admitted into the Hôtel Dieu, where he was bled, and sinapisms applied to the feet; that on the left side was acutely felt, but the other occasioned very little pain. He had no fever.

Examined the next day, the mobility of the right extremities was only very slightly diminished; he appeared to have rather less strength in his right hand than in his left, when he attempted to grasp a body. Great modifications had taken place in regard to sensibility. The body was accurately divided along the median line into two halves, in the right of which the sensibility was in a state of considerable exaltation, while in the left it did not deviate from its natural standard; but this state of things was so accurately limited by the median line, that a gentle irritation, applied at the distance of a line on the left side, was not followed by any unusual effect; while at even a less distance on the right, the irritation, however slight, produced an exaltation of sensibility absolutely insupportable. After having traced with ink a line extending from the forehead to the pubis, light pressure was made on the right side with the tip of the fingers, at the distance of half a line throughout its length, but particularly along the thorax; this pressure was at first painful, then hardly supportable, and eventually, if continued, the patient was thrown into an almost convulsive state, similar to that which prolonged titillation produces in subjects very sensible to that species of stimulus. Nothing of the kind was observed on the left side of the line. Measures were taken to remove all doubt of this singular state of things being uninfluenced by the will or imagination of the patient. Among other precautions, his eyes were covered, and while one person kept him engaged in conversation respecting his family affairs, &c. another twitched alternately the hairs on the thorax nearest the median line; those on the left gave only a slight sensation, while those on the right were acutely felt; and if these trials were a little protracted, the patient was thrown into considerable agitation. Similar phenomena were observed on the head, abdomen, scrotum, along the back, and on the lower extremities. In order to ascertain how far the organ of taste was affected, a drop of ink was placed, unknown to the patient, upon the left side of the tongue; it was scarcely perceived—while applied to the right side, it occasioned a pricking sensation. A feather introduced into the left nostril occasioned only a gentle titillation; in the right the irritation was insupportable. Vision, however, was alike perfect on both sides, the pupils were of the same size, and equally sensible to the light; the sense of hearing appeared to be also unaffected. The right commissure of the mouth was slightly depressed. There was an acute pain in the forehead, but it was equally felt on both sides.

His speech presented peculiarities not less worthy of remark, notwithstanding that the motions of his tongue were easy and performed with great rapidity, and his intellectual faculties perfectly sound. When he attempted to speak, it was impossible for him to translate correctly his ideas; he pronounced some words erroneously, made use of others which would not express his meaning, and perceiving his mistake, would become impatient, and sometimes break off suddenly. Occasionally his speech was very correct, and a word which he had previously found some difficulty in uttering, could afterwards be pronounced with facility. Perfectly aware of his substitution of words, and of his mistakes in pronunciation, he strove against it, and sometimes surmounting the obstacle which existed to the free articulation of words, and failing to do so at others, his conversation became almost unintelligible, unless the listener, giving him undivided attention, endeavoured to seek in the root or termination of the word, the *liaison* which should unite it with that which Meunier wished to make use of. Some of the words which he substituted for others, and which will be found to have some connexion with those which he intended to employ, are given below; for *clef* he said *clique;* for *serrurier-mécanicien, serrusin-metien;* for *réve, vers;* for *ruisseau, ruisseux, ruissans;* for *eau, rau;* for *soupee, solium;* for *bouillon, boujon;* for *champagne, chemange;* for *charpentier, champonier;* for *fibre, vibre;* &c. &c. He frequently made three syllables of words which had but two, and *vice versa.* When he spoke slowly, and divided the words into syllables, he pronounced much better, and even articulated very distinctly phrases containing words to which a little while before he could not give utterance; the impediment would then suddenly return, together with the faulty pronunciation. It is worthy of remark, that articulation was much influenced by stimulation upon the right side of the body, and that then he spoke less distinctly. He had no fever, slept well, was not troubled with dreams, and in fact, presented no other remarkable symptom; all the organic functions were regularly performed

He was ordered to be again bled, and to have an infusion of linden flowers for drink.

On the 8th of March, the cephalalgia was confined to the left temple, where it was very acute; in other respects his condition was little altered, except that the sensibility of the right side had perceptibly diminished. Twelve leeches were directed to the left temple. The next day the pain in the temple was not so severe, and the diminution of sensibility in the right side was still more considerable. The patient not having urinated since the day before, the catheter was introduced, and the warm bath directed.

10th.—The right side had recovered its natural sensibility, with the exception of the leg, the impressions made upon which were incorrectly transmitted to the sensorium, and the patient was unable to judge exactly of the nature of substances applied to this part: the cephalalgia had entirely ceased. There was rather more numbness of the leg on the 14th than on the preceding days, so that the patient was insensible to the presence of his clothes; this state of things extended throughout its circumference, but in the posterior region there still existed so much irritability, that repeated stimulation upon this part induced a considerable general exaltation, to a much less degree, however, than on the second, third, and fourth days of his illness. In other respects his health was good; the slight depression of the right commissure of his mouth had ceased, and the extremities had completely recovered their motive powers. He was discharged from the hospital on the 17th, in perfect health, with the exception of a slight modification in the sensibility of the right leg. Fifteen days afterwards M. Martinet saw him again; his health had continued excellent, and a further improvement had taken place in the state of the leg; he had continued the use of the bath, and the right side of the body, a short time before so acutely sensible, now presented nothing unusual.

From the London Medical Gazette.

DISLOCATION OF THE PATELLA.

To the Editor of the London Medical Gazette.

Sir,—If you think the following case sufficiently interesting, you will oblige Mr. Broughton and myself by giving it a place in your journal.

On Tuesday morning I was called into consultation, by my friend Mr. Broughton, upon a case of dislocation of the patella, which had occurred under the following circumstances. A private of the 2d Life Guards, a stout muscular young man, was struck sharply on the right knee by the knee of another soldier, as, in the exercises, two opposite lines rode through each other. They were riding at a walk, but the soldier on the right of our patient had spurred his horse, so that it moved forward briskly. By this accident the patella was dislocated outwards, and rested with its inner edge upon the outer surface of the external condyle, the fore part of the patella facing obliquely forwards and inwards.

As the patient lay with the knee extended, he experienced no pain; there was no tension of the quadriceps extensor cruris; the patella admitted of a slight degree of motion forward or backward, turning upon its inner edge, which seemed caught behind the prominent margin of the articular surface of the condyle.

We tried the following methods to reduce the dislocation. 1. *The knee remaining extended,* we pressed the outer edge of the patella downwards, forcing the bone at the same time strongly inwards. 2. Force was applied in the same manner, *the joint being rather more than half bent.* 3. We used the same sort of pressure, *beginning it while the knee was bent, and continuing it as forcibly as possible at the moment that the joint was brought to the extended position.* Bending the knee to the extent described we found gave the patient great pain, and caused the patella to face, not obliquely, but directly forwards.

These attempts proved unavailing, and we left the patient for a time. In the afternoon we met at the Anatomical Theatre, in Great Windmill street, and examined the nature of the dislocation in a dissected limb, when we found, that, *upon bending the knee to the utmost,* the condyle was almost wholly drawn away from the patella. And we thought it reasonable to expect, that if the joint in our patient should be found to admit of perfect flexion, the patella would in that case, as we had seen it in the dissected limb, become disengaged from the condyle, and the dislocation be spontaneously reduced by the action of the quadriceps extensor cruris.

We returned to the Barrack Hospital, and our patient expressed his willingness to submit to the experiment which we proposed to try. He was laid upon the left side, and his right ankle was grasped by a comrade, who, when we bade him, suddenly carried the heel back to the hip, thus bending the knee to the utmost. This motion was hardly completed when the patella audibly returned into its socket.

I remain, Mr. Editor,
Your obedient servant,
Herbert Mayo.

From the London Medical Gazette.

PECULIAR AFFECTION OF THE WRIST,

Occurring in Hysterical Patients. Described by Mr. Brodie.

In a recent clinical lecture on a case of rheumatism of the hand, Mr. Brodie, after reading the details, considered, seriatim, the history and symptoms, pointing out their similarity to those which denote inflammation of the synovial membrane. Having expressed his opinion that the patient laboured under rheumatic inflammation of this membrane, Mr. Brodie observed, that when he first saw the case, being able to give it but a cursory glance, he suspected the existence of another affection.

Females, said Mr. Brodie, of nervous and irritable temperament, especially those who have suffered from mental anxiety, are liable to a peculiar affection of the wrist; and, unlike the generality of hysterical complaints, the married and unmarried are subject to it in nearly a similar proportion. The patient complains of pain in the wrist, which, after continuing a certain space of time, is followed by a kind of puffy swelling, extending up the forearm and down to the fingers. This swelling has many of the characters of that produced by synovial inflammation, but differs from it in this, that it is more diffused. Sometimes the swelling is extensive; sometimes so slight as barely to be seen. Having lasted some days or weeks, it subsides, whilst the pain remains, constant in its character, aggravated by every motion, and rendered worse by the patient's attention being drawn to it. To prevent that motion which she dreads so much, the patient keeps her hand in one position; in consequence of which the joint grows stiff and rigid, and the parts assume a very characteristic appearance, the skin being tense and glossy, and appearing to adhere pretty closely to the textures underneath.

The pain may continue for three months, six months, or one or two years; at the end of which time it in general subsides, leaving behind it a stiffness of the hand and fingers, from which the patient will gradually recover. In one case, however, and in Mr. B.'s experience only in one, the pain continued for three or four years, when the hand was left shrunk and withered, the fingers being contracted, and drawn into the palm. The nails had grown lank, scabrous, and rough. This was the case of a lady who consulted Mr. Brodie in the year 1819. Subsequently, she went upon the continent; but when seen by Mr. Brodie on her return, a little while ago, the hand was in the condition above described. Mr. Brodie once saw a similar affection in the foot, which was distorted and useless; the toe-nails scabrous and rough, with ulcers at their edges.

Having touched on this affection, in illustration of the case which formed the subject of the lecture, Mr. Brodie thought it better to allude to the treatment. As the health is in general weak, remedies calculated to improve it are also of service to the local complaint; and in two instances, bark was decidedly of use. From a scruple to half a drachm of the carbonate of ammonia in the course of the day, paying at the same time attention to the bowels, is often a powerful remedy. If the menstruation is irregular, that irregularity is to be corrected by suitable remedies, as the vinum alois, steel, and similar means. As a local application, the following embrocation will frequently lull the pain.

Mist. Camph. ℥viss.
Spt. Rosmarin. ℥iss.

This should be applied tepid on a rag.

A plaster, composed of equal parts of the emplastrum saponis, and emplastrum belladonnæ, is frequently useful; at any rate, even when it does no good, it can do no harm. The vapour bath, especially in the advanced stage of the complaint, is also a serviceable remedy. At the same time that local or general measures are employed, the surgeon should bear in mind one important caution—never to draw the attention of the patient to her disorder more than is absolutely necessary.

From the Bulletin des Sciences Medicales.

OBSERVATIONS FAITES A ALEXANDRIE, EN EGYPTE, SUR LA PESTE.

The following observations, by an Italian physician who practised medicine several years at Alexandria, were appended to a paper recently published at Marseilles.

The plague made its appearance in Alexandria in the year 1815, at a period when all the Frank population were indulging in the pleasures of the carnival. According to the custom of the country, every one immediately shut himself up in his house, to leave it no more until after *St. Jean.* I was unwilling to immure myself in the oquelle Française,* where I then lodged, because it was customary to close the great door, to the end that there might be a free communication in the interior of the building. It was not long ere I had reason to repent of my temerity.

On the 25th of April I was requested to visit a slave belonging to M. Godard, Consul General of Austria, Russia, and Sweden. To overcome my repugnance, the consul himself touched the slave, and made some of the bystanders do the same, assuring me that by a residence of forty-five years, he had learned to detect with certainty the true symptoms of plague. Encouraged by these demonstrations, I approached the bed, and examining the patient, found the pulse full, respiration difficult, and the whole train of symptoms indicating inflammatory action. I directed leeches to be applied, and returning shortly after found my patient dead. No buboes, pustules, eruption, or in fact, any of the signs which ordinarily accompany plague, were perceptible on the body.

While occupied in some serious reflections upon so unexpected a termination, a messenger came to apprize me that M. Godard had just been attacked with apoplexy. I hastened to his assistance, and symphathizing with the feelings of the family, suffered myself to be persuaded to feel his pulse. General and local blood-letting appeared to rouse the patient, and the tongue, which was before somewhat paralysed, recovered its mobility. These favourable appearances, however, were deceptive; he died at ten o'clock in the evening.

Although his body, like that of the slave, presented none of the external signs of plague, I now began to entertain serious doubts, which were soon converted into certainty. On the 2d of May, I was requested to visit the widow of the consul, who was said to be merely indisposed on account of the loss which she had sustained. I hastened to the house, but she was a corpse before my arrival.

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* An immense square enclosure, in which the French consul and merchants reside; the consular oquelles are sacred and inviolable asylums.

This melancholy event having spread through the city, the inhabitants of the oquelle Française, who observed the most rigid quarantine, sent me linen and clothes, advising me before putting them on, to wash myself with vinegar and water. I did so, but thirty-six hours afterwards, was attacked with a violent convulsion, which was succeeded by profuse vomiting; in a few hours my body was covered with buboes, carbuncles, and petechiæ, the cicatrices of which still remain. This cruel disease lasted two months, and my convalescence nearly a year, during which time, I could not walk without the aid of crutches. Of five domestics in my employment, four were the victims of their zeal, or rather of Turkish fatalism; the fifth escaped the disease altogether. Audriac, a French physician, enveloped in a waxed dress, visited and touched his patients without taking any other precaution than washing his hands in aromatic vinegar. He called to see me—two days after, he died of a bubo.

During my long convalescense, when my health permitted, I crept about among those of the sick whom I thought I could touch without danger; and these frequent visits furnished me with opportunities of making many observations, to the number of which I was constantly adding, during five years that I lived at Alexandria. The symptoms of plague are so numerous, and diversified, and the disease is so imperfectly known, notwithstanding the numerous works which have appeared on the subject, that I have thought it might prove useful to detail succinctly and faithfully the principal results of my observations.

1st.—Plague is indigenous in Egypt; but its manifestation depends on the concurrence of many circumstances, which appear to be found in combination only from the month of March to the end of July.

2d.—Contact alone is not sufficient to communicate the disease; there must also exist a certain predisposition, without which, the pestilential virus does not operate.

3d.—In order that the disease may be propagated from one place to another, it is requisite that the virus should be favoured by a certain atmospheric constitution, and by the concurrence of several circumstances, without which it is not developed.

4th.—Negroes, persons who have been but a short time in the country, and strangers, are more exposed to the contagion than natives and acclimated persons.

5th.—In certain years the disease attacks in preference, children, the wounded, timid persons, those disposed to asthenia, and in general all individuals who have experienced some recent alteration. On such occasions, persons who subject themselves to a rigorous quarantine are scarcely more secure than those who walk the streets.

6th.—In other years the plague evinces a preference for adults and persons of robust and vigorous constitutions; but at such times, those alone who expose themselves fall victims. At these periods, dealers in oil are less liable to the disease than people of any other profession; the inhabitants of the oquelles under quarantine do not run the slightest risk.

7th.—In those years in which the plague presents an asthenic character, medical aid is useless; it should be limited to the assistance of nature in the crises.

8th.—At those periods, on the contrary, when it evinces a sthenic character, the most powerful depressives, administered with a liberal but prudent hand, during the first period, which is ordinarily very short, may be productive of the most salutary consequences.

9th.—The same person is liable to repeated attacks of the disease, but rarely in the same year.

10th.—All the cacochymiæ may co-exist, but cannot be co-active with plague.

The two first observations are already sufficiently established. The third is founded upon a residence of five years at Alexandria, during which the plague made terrible ravages in that city. Cairo almost invariably escaped the disease, notwithstanding the constant passage of travellers, letters, and merchandise. The fourth can be confirmed by all the inhabitants of Egypt. Observation fifth, is deduced from the plague of 1815 and that of 1818. In those two years, this scourge attacked only asthenic persons, those who had committed excesses, or whose system was disordered. At those periods it was observed that persons, in consequence of a surfeit, excess in drink, fright, or a transitory fear, fall, wound, venesection, or even a gentle purgative taken by way of precaution, were attacked with the disease, notwithstanding a very rigid quarantine; while healthy, robust, and sober men, passed freely and with impunity through the city.

Observation sixth is drawn from the plague which prevailed in 1816 and 17. In those two years it attacked in preference those of sthenic constitutions. All persons comprised in this category who risked themselves in the streets, were sure of being attacked, while persons of a feeble or altered constitution escaped the disease. Those persons, of whatever temperament, who, during the years just mentioned, observed a rigid quarantine, were exempt from the disease.

The little benefit resulting from medicine in 1815 and 1818, and its happy effects in 1816, 17, and 19, justify my seventh and eighth observations. In the year last mentioned, Dr. Morpurgo obtained the most salutary results by exhibiting in large doses, the most powerful depressives. The two last observations are drawn from my own experience, and that of the inhabitants of the country. Many persons think that in certain years almost all diseases change into plague. This opinion is contrary to fact. Diseases dispose to plague only in those years in which it presents an asthenic character; at such times they co-exist, but they do not assume a contagious nature. This is proved by the fact that after the subsidence of the plague, the primitive disease resumes its action, which it would not do had it changed its nature. This observation refers particularly to syphilitic and scorbutic diseases. In 1816 and 17, having observed that the plague chiefly attacked healthy and robust individuals, and that the inflammatory period, though of very brief duration, was most violent and dangerous, since of a hundred patients, ten were scarcely fortunate enough to survive it, I ventured upon the employment in large doses of some of the powerful depressives, such for example, as tartarized antimony, digitalis, and even prussic acid. I had no reason to repent of having adopted this mode of treatment, which I should certainly not have employed in less imperious circumstances. I had the satisfaction to find that four fifths of my patients, to whom these remedies were timely administered, recovered.

I had certainly reason to expect encouragement; but the report having got about that I was using prussic acid, I received an intimation from an influential personage to abstain from its employment in future. It was in vain that I represented to him that the most simple remedies may become poisons when improperly administered, and that the most energetic poisons, when skilfully employed, and in favourable circumstances, act sometimes as specifics; I added, that in the present case we were justified in trying any thing, that violent diseases demanded violent remedies, and lastly, that experience justified my conduct. He was inexorable, and even pretended that I had to reproach myself with the death of the fifth part of my patients. He told me very seriously that such was the opinion of the wisest men; that medicines were not wanted in the plague; that the disease was a visitation from heaven; and that a physician had better permit eighty in a hundred of his patients to die, than to save the same number by means of poisons. A Turk could certainly not have answered better. I held my peace, and found my consolation in the certainty that I had been instrumental in saving a great number of victims. Happily the plague of 1818 was of a different character, and I had hardly reason to complain of so singular a prohibition. Moreover, I was amply justified in 1819, by the success obtained by Dr. Morpurgo, physician to the European Hospital; this learned practitioner having revived my plan, had the happiness to snatch from death a great number of persons, and fortunately for humanity, dogmatic censure did not this time intermeddle with medical operations.

From the Gazette de Sante.

EMPLOI DE L'HYDROCYANATE DE FER DANS L'EPILEPSIE ET LA CHOREE.

Case 1.—A woman, of robust constitution, and a prey to domestic unhappiness, was attacked in 1823 with a nervous affection, (*trouble nervoux*,) accompanied with fever, which soon disappeared. In April, 1827, an assemblage of symptoms analogous to those of epilepsy, made their appearance. Recourse was had to venesection, diluents, and a light diet; and at the next return of the symptoms, the warm bath and drastic purgatives were employed without any benefit. The recurrence of the symptoms about every eighth day, removed all doubt of the epileptic character of the disease. M. Anthony now determined to make trial of the hydrocyanate of iron. The patient took at first, half a grain mixed with two grains of sugar, in a spoonful of water, and the quantity of the salt was gradually increased to four grains and a half. The first doses were so efficacious, that the patient remained about two months without an attack of the disease. The digestive organs were not irritated by the remedy, owing perhaps to the rapidity of its decomposition in the alimentary canal. A sense of stupor having been produced by the sudden augmentation of the dose of the medicine, the patient took an aversion to it, and insisted upon discontinuing its use. Some time after, the epileptic paroxysms reappeared, and she was again persuaded to resume her medicine; the dose was gradually extended to seven grains, morning and evening, and the paroxysms were again removed.

Case 2.—A young man, æt. 23, who in consequence of a fright at the age of 15, was attacked with epilepsy, had unavailingly made trial of the several remedies most celebrated in this disease. M. Anthony began with the hydrocyanate of iron in the quantity of half a grain, and increased it progressively to twelve grains a day. The paroxysms, which had previously been very frequent, had not recurred for the five months ending in February last. The patient complained only of having experienced a remarkable diminution in his virile faculties.

Case 3.—An epileptic female, who was admitted thirty years ago in the Hospital of Incurables for this disease, was in the first instance bled from the arm, leeches were subsequently applied to the mastoid process, and she was confined to a light regimen. The hydrocyanate of iron was then prescribed, and after fifteen days, the paroxysms, which had previously recurred very frequently, had already ceased.

Case 4.—A man, aged 36 years, had for six been subject to epileptic paroxysms, returning every six or eight days. M. Gergerès directed the hydrocyanate of iron, in quantity of half a grain, morning and evening, mixed with sugar. The dose was progressively augmented to four grains a day, and from the time the patient was subjected to this treatment, he has escaped the disease.

Case 5.—A woman, 26 years of age, had been subject to chorea, which recurred at short intervals, for six years; the ordinary remedies having failed, she was directed to take fifteen drops of hydrocyanic acid, largely diluted, during the day; the dose was gradually augmented, five drops at a time, till it reached seventy-five. From this period there was such an evident amendment, that hope was entertained of affecting a complete cure; ultimately the patient took as much as ninety drops in the twenty-four hours. Notwithstanding this favourable result, M. Guérin preferred giving her the hydrocyanate of iron. It was made up into pills, containing half a grain of the salt, and five of pulverised valerian; of these she took at first two, three times a day, and increased them gradually to eighteen in the twenty-four hours; a complete cure was the consequence.

Case 6.—A child, æt. 12, had for several days been affected with convulsive movements, especially of the left arm; the attacks began in the morning and recurred three times a day, at intervals more or less remote. They were characterized by a state of terror, rolling of the eyes, and a well marked spasm of the left arm. Regarding the disease as chorea, M. Burguet directed demi-baths with refrigerating applications to the head; no benefit resulting from these measures, he prescribed the hydrocyanate of iron in quantity of an eighth of a grain, and increased it to four grains a day, without making any impression upon the disease. At a later period, the pulse becoming full and frequent, the patient was bled, and leeches were applied to the mastoid processes, which succeeded in calming the vascular excitement. The paroxysms, however, continued, and the patient fell into a kind of idiotism. Demi-baths was again had recourse to, and valerian was exhibited, which eventually triumphed over the disease.—*Travaux de l'Academie Royal de Médecine de Bordeaux*, 1827–28.

From the Journal des Progres des Sciences et Institutions Medicales.

ANCIENNE PLAIE D'ARME A FEU; *biscayen resté dans la Tête pendant vint-un ans; meningite tres aigue; mort.* Par M. Weber.

Etienne Longat, æt. 42, of large stature and robust constitution, a ropemaker by trade, was brought to the Hôpital Saint Louis, May 26th, 1828, at six P. M. with the following symptoms:—Accellerated and difficult respiration, accompanied with a noisy râle in the superior respiratory passage, loss of consciousness without paralysis of sensation or motion; contraction of the extremities, especially of the left arm, which could with difficulty be extended; there was also a constant tendency in the hand of the same side to rub the other parts of the body, in whatever position it was placed; the skin was moist, countenance flushed; the pulse presented nothing unusual; it was full without being very frequent.

At the battle of Eylau (February 8th, 1807,) he had been shot in the head by a ball, which had never been extracted. The wound made by its entrance was now converted into a round, fistulous opening, from four to five lines in diameter, situated exactly at the root of the the nose, between the eyes, and communicating with the nasal fossæ. He was discharged on account of the accident, and has ever since worked at his trade, contenting himself with plugging the orifice with tents of flax. It was stated that he was unable to blow his nose, and had lost the sense of smell; that he lived almost alone, on account of the horrid fœtor which escaped from his nose; and that though in general temperate, he would occasionally become intoxicated. The day before, he had been at work with his employer, but whether in the sun or shade was not stated; at six P. M. he returned to his lodgings, complaining of fever and violent pain in his head; very soon afterwards he lost the power of speech; he perspired abundantly, and his respiration became stertorous, (bruyant,) and continued so till his removal. He was bled the next morning, and in the afternoon carried to the hospital; at parting he pressed the hand of his landlord, which proves that there was not a total abolition of consciousness.

The house surgeon did not recognise in these symptoms a well marked cerebral affection, but struck by the difficulty of respiration, and supposing that the disturbance of the functions of the brain, and the determination to that organ, might be occasioned by the ball having been displaced from its situation, and pressing upon the nerves and vessels, deemed it expedient to commence by exploring the respiratory passages. A female catheter was accordingly introduced through the opening at the root of the nose, and after being carried some distance downwards and backwards, was arrested by a foreign body, situated above the velum pendulum, which it protruded forwards. Repeated unsuccessful attempts were made to extract it through the opening by means of the forceps, and it was ultimately removed by means of the finger introduced into the mouth.

The body was of a rounded form, about an inch in diameter, rough and pulverulent on the surface, from which particles could be easily detached; it exhaled a very disgusting odour, and was found on analysis to be composed of iron; so that it was not a common ball, as indeed was evident from its size, but one of Biscayan manufacture.*

During the last attempts at extraction, the patient lost a considerable quantity of blood, both by the mouth and fistula; he did not recover his consciousness, uttered no cry, but notwithstanding, evinced his suffering by the motion of his head and hands in endeavouring to escape from the instruments. After the extraction of the ball, the râle greatly diminished, and respiration became more easy; the patient was raised, some drink given him, and his linen, which was wet with perspiration, changed. Half an hour afterwards he appeared calm, consciousness had not returned; his face was injected and bluish; the sweat continued. 10 P. M. The patient has wet two shirts; he does not reply when spoken to; his countenance is expressive of wandering; there are some involuntary movements of the superior extremities; he drinks with avidity whatever is presented to him, and holds the glass himself; respiration continues frequent, and is again accompanied with a loud, humid râle. He was bled largely from the foot.

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* Biscay is a province of France, which produces excellent iron, but where the manufactures from that article are exceedingly rough and coarse.

May 27th, 3 A. M. The perspiration continues; the countenance is dejected; eyes half open; respiration frequent, and obstructed by the mucus accumulated in the trachea and pharynx; pulse very frequent, and slightly irregular; loss of consciousness still more complete than yesterday. The patient, when pinched, sometimes evinces no mark of sensibility, at others he utters a low groan. The continuance and increase of the symptoms at length induced his medical attendants to think that they were dependent upon some other cause than the presence of the ball. He died about noon, thirty-six hours from the first accession of the symptoms.

Autopsis, twenty-six hours after death.—A remarkable appearance was presented on removing the cranium and dura mater; all the depressions between the circumvolutions of the brain, where the pia mater, separating from the arachnoid, forms a triangular space, were filled and distended with well formed pus; the veins of the pia mater were greatly injected; pus was also found at the superior part of the cerebellum. The brain itself, when cut into, was found considerably injected; the small vessels were filled with coagulated blood, which was drawn out in filaments by the knife; the ventricles contained a moderate quantity of serum, in which floated some flocculi of pus. At the base of the cranium no lesion was observed, except perhaps a slight softening of the lower part of the anterior lobes; the olfactory nerves were evidently atrophied, and denser than natural; they could by no means be torn with the usual facility. The dura mater intact, covered the spot corresponding to the os ethmoides; on raising it, a few vestiges only of the cribriform plate were perceptible, and the interior of the nasal fossæ was exposed; the latter, by the destruction of their septum, the inferior part only of which remained, and of a great portion of the ethmoid, appeared like a kind of infectious cloaca, in which it was impossible to distinguish any thing. This part of the head was removed, and subjected to maceration, in order better to appreciate the destruction of parts.

The pharynx was sound, the lungs greatly congested, the trachea and bronchi filled with a brownish fluid, which appeared to be a mixture of blood, pus, and mucus; the stomach loaded with fluid; the small intestines contained, in great abundance, a greenish black matter, very adherent to its parietes; the other viscera were sound.

On examining the macerated head, the nasal fossæ were found transformed into a great cavity, which might easily admit a hen's egg; the inferior part of the vomer was all that remained of the septum. The opening through which the ball had passed was in the anterior parietes of the cavity; it was about eight lines in length, and six in breadth; it was bounded by the os-frontis, by the nasal processes of the superior maxillary bones, and by the inferior half of the ossa-nasi. These bones were depressed towards the opening, to such a degree, that the remaining part of the nose was nearly horizontal. The space between the orbits was evidently greater than in an ordinary head, and instead of the cavity of the orbit becoming extended on the side next the nose, it was the osseous circumference of the fistula which had encroached upon the orbit; the lateral parts were in fact convex exteriorly, they presented marks of ancient fractures. Above, the right frontal sinus was largely open, no trace remained of the left sinus; farther backwards the cribriform plate of the ethmoid was wanting; no trace of the spongy bones was perceptible on the right side of the cavity; at its upper part, this side was formed by the external lamen of the lateral masses of the ethmoid, and by some remains of the cells of this bone; below, the maxillary sinus was open, but seemed not so much destroyed, as pushed outwards. On the left side, the disorganization was less extensive; the inferior and middle spongy bones were diminished in size, but still existed, as did also the ethmoidal cells; the floor of the cavity was entirely destroyed in its posterior half, which comprehended the horizontal part of the two palate bones.

After a few remarks on the local effects produced by the pressure and irritation of the ball, and on the error committed in overlooking the existence of the meningitis, M. Weber observes, that in regard to the connexion between the two affections, it is difficult to form any positive opinion; perhaps they were even altogether independent of each other. The ball had remained in the head more than twenty years without producing any cerebral affection, and it appeared on dissection, that the disease had not originated on the side of ethmoid. It arose, he thinks, most probably from insolation. It must not be supposed, however, that the ball was entirely innocent in the production of the symptoms; it accounts for the difficulty of respiration, and the sanguino-purulent mucus, which the patient was unable to expectorate. The circulation through the lungs was obstructed, and the consequence was a reaction upon the disease of the brain. The difficulty of respiration which occurred here, cannot be confounded with that which is sometimes met with at the termination of cerebral affections, since it was observed from the beginning of the disease.

From the London Medical and Physical Journal.

ON PAINFUL AND PERMANENT SPASMODIC STRICTURE OF THE SPHINCTER ANI, *with or without Fissure.* By A CORRESPONDENT IN PARIS.

I perceive in Dr. Johnston's review of a Treatise on Stricture of the Rectum, the following remarks:—"A *peculiar constriction of the anus* is sometimes the cause of stricture. Mr. S. has rarely found this unattended with obstruction very high up in the rectum. In females, an occasional and afflicting source of stricture is an enlarged and tender condition of the uterus, of which we have a melancholy case under our care. *Every time that a motion is produced by nature or art, the sufferings are dreadful,* and can only be allayed by the introduction of laudanum into the rectum. *In these unhappy cases, little or nothing can be done by surgery.* The only means of mitigating the pains are by emollient injections, to bring away the feces in a soft state; and afterwards throwing up an anodyne."*

To say nothing of the manifestly incredible statement of Mr. Salmon, that constriction of the anus is *rarely* found without obstruction very high up in the rectum, the supposed internal disease which is thus asserted to be beyond the reach of surgery, I presume to be one which is known to continental surgeons under the title of spasmodic constriction of the sphincter, accompanied most commonly by fissure within the gut, and is *cured* by cutting freely through all the fibres of the sphincter in one or more parts, avoiding the anterior and posterior, on account of the important organs in front of the one, and the blood-vessels of the other.

The symptoms of the patient referred to by the reviewer are supposed to arise from an "enlarged and tender condition of the uterus:" so, in cases of the spasmodic affection of the anus, women have ascribed their sufferings to ulcers of the womb; sometimes they have been treated for disease of the liver or spleen; and the cause in others has been referred to syphilis, or impetiginous affection: but all these accessary symptoms disappeared by the free incision of the sphincter.

The uterine affection, with constant desire to void urine, was strongly marked in a patient of the Hôtel Dieu at Paris, on whom I witnessed the operation. The womb was frequently prolapsed and painful; sometimes, in an erect position, she experienced pains which she described as resembling the passage of a fœtus, although not equal in intensity; for, to adopt her own language, they were like a "*petit enfantement.*" She had suffered from hemorrhoids, and violent pain in evacuating the feces, for many years past, and the pains in the interval were lancinating. The introduction of pledgets into the rectum was effected with great difficulty, on account of the constriction, and followed by such intense suffering, that they were necessarily abandoned. When on the operation table in the amphitheatre, the margin of the anus was seen to be completely surrounded by large hemorrhoidal tumours, in the centre of which an internal one appeared; and a fissure existed in the longitudinal direction of the gut. All the tumours were successively removed by the scissors, and an extensive incision was made in the fissure. On the following day, I found her free from pain. Within the space of a fortnight she had recovered her health and cheerfulness; although, for a considerable time past, she had been plunged in the depths of misery and distress.

It is commonly supposed that no traces either of constriction or of the peculiar fissure, are to be found in any author anterior to the time of Sabatier, who speaks of superficial and painful excoriations, narrow and long, within the margin of the anus, which are exceedingly difficult of cure, and remarkable for the pain which they excite. The rhagades and fissures described by authors as concomitants of syphilis, or the same affections noticed by Lemonier in his Treatise on Fistula in Ano, published in 1689, possesses none of the characteristic marks of the spasmodic constriction, and the horrible suffering resulting from a fissure which is sometimes scarcely perceptible, and often only to be discovered by the unutterable anguish which follows the introduction of the finger. They are described as little painful ulcers, following the course of the wrinkles of the anus, resembling chaps in the legs and hands; sometimes caused by induration of fecal matter, by dysentery, or by syphilis.

M. Boyer was the first to investigate the nature of this disease, and about twenty years since discovered by accident the proper mode of cure by incision, which he asserts to have successfully employed in upwards of a hundred cases; and his practice has been adopted by the principal surgeons in the French metropolis. His primary intention was no other than to convert a callous fissure into a recent wound, but his success surpassed his expectation. The lancinating pains instantly ceased, and the constriction also. The latter result induced him to make the incision in the case of constriction alone without fissure: he was equally fortunate. Soon afterwards, having met with patients in whom the fissure existed in the anterior or posterior parts of the rectum, where the use of the knife might be attended with inconvenient results, he determined to make his incisions laterally, taking no account of the fissure, which always disappeared spontaneously after the operation.

It can hardly be necessary to describe the mode of using the scalpel in those cases: it may be sufficient to remind the practitioner, that, as the object is dilatation, the reunion of the lips of the wound should be prevented by the introduction of pledgets into the anus.

Although the essential feature of this affection is the constriction, yet the more frequent accompaniment of the fissure has caused it to be better known by the latter title. M. Boyer gives it this denomination, expressing at the same time his firm opinion that it depends upon the constriction, inasmuch as all the symptoms are felt when the fissure is absent, and the cure of the constriction is invariably followed by that of the fissure.

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* Vide Journal of Foreign Medicine, Vol. II. page 131.

The account which I believe to be the first in order of publication, appeared in the Dictionnaire des Sciences Medicales, eight years after the successful treatment of the early cases at the Hôpital la Charité, to which M. Boyer is the surgeon. It is, in fact, substantially the same as the later publication of this gentleman, and might be derived from the clinical lectures which, as the professor of surgery, he was in the habit of delivering at the Ecole de Medecine in Paris. Another account was published in the New Dictionnaire de Medecine, in 1824; and it is remarkable that, although some parts are the very words of M. Boyer, yet the work of the latter appeared a year later.*

The characteristics are stated by this gentleman to be excessive pain during the alvine evacuations. The fore-finger penetrates with difficulty into the rectum, and is strongly constricted: its introduction is always followed by pain, which is intolerable if strong pressure be made on the fissure, and the patient darts forward to escape the torment which he feels. That which accompanies or follows the alvine discharge is, in general, proportioned to the size and hardness of the excrements; but, although the feces may be liquid as in diarrhœa, the suffering of the patient is still great. Even the evacuation of flatus is productive of pain, and is sometimes impossible. One of the patients was tormented with a desire to discharge flatus to such a degree as to be obliged to wear an elastic tube in the rectum, for the purpose of giving it vent. In many, the symptoms had been preceded by hemorrhoidal tumours, and the removal had not been followed by relief.

It begins insensibly. The evacuation of feces is attended with heat and smarting, which sometimes remains during many hours. Sometimes these symptoms intermit for several days, especially if heating drinks are avoided, and clysters, with frequent cold ablution, be employed. But soon the heat and smarting recurs; the discharge of feces is attended with more pain, and a longer continuance of it. Blood sometimes accompanies the feces; the pains increase. Laxatives, clysters, and cooling regimen, relieve to a certain period, but at length they lose their beneficial effect. The symptoms increase, and require the continual use of purgatives.

The consequence of constipation is a great increase of suffering, which is often compared to the introduction of a red hot iron into the rectum. Some patients are agitated by a sort of general convulsive contraction, or fall into syncope. After the evacuation, the pain is not only acute, but a shooting and pulsation is felt, like that of an inflamed part. In one patient, a slight febrile paroxysm took place after every evacuation.

The pains do not increase in a progressive manner: they intermit, and vary in intensity according to circumstances. Violent exercise, the use of wine and spirits, too much food or of a heating kind, tend to increase them. The influence of regimen is so marked, that patients often confine themselves to the smallest quantity of food, from a fear of increasing the excrement. In many, the symptoms increase at the menstrual period. One experienced exacerbation of suffering every eighth day.

The most trifling circumstance will exasperate the pain: the act of coughing, voiding urine, or jumping, is sufficient. Some cannot stand erect, others cannot sit.

When the disease has long existed, nervous irritability and emaciation, hypochondriasis, or retention of urine, are frequently superaded to the local symptoms.

The cases treated by M. Boyer so admirably illustrate the disease, that I cannot better conclude this paper than by subjoining them, especially as I do not recollect to have seen them in an English form, and believe them to be generally unknown in Great Britain.

Cases of Constriction of the Anus, with Fissure.

Case 1.—Marie Aquette, twenty-six years of age, entered the hospital of la Charité, in the month of September, 1809. Two years and a half before this period, she had begun to experience pains in the rectum, which became more acute during the evacuation of fecal matter. Six months afterwards, hemorrhoids appeared, which at first were treated by leeches, and subsequently excised. After the operation the pains increased: they were not constant, and often returned without any apparent cause; sometimes they came on after a fit of coughing or sneezing, or remaining too long either in a recumbent or sitting posture. They also increased at the time of menstruation, and especially on going to stool. Every muscle was then in contraction, and the patient, a prey to unutterable anguish, forcibly grasped every object which surrounded her. When the feces were firm they were small in quantity, commonly tinged with blood, and the pains which they occasioned in the passage was a sense of laceration: when the evacuations were liquid, the smarting was more to be endured, but still great.

Clysters produced some alleviation; but the introduction of the canula was so difficult and painful, that the patient could rarely decide to have recourse to it. The introduction of the finger into the anus (which was frequently examined by the surgeon who usually attended,) constantly produced excessive pain, especially on the right side. After the use of many remedies, a mercurial course was ineffectually tried, to which the patient submitted for nine months, notwithstanding her conviction that her disease could have no connexion with syphilis.

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* Traité des Maladies Chirurgicales, et des Operations qui leur conviennent.

I introduced my finger into the rectum. I felt it strongly pressed. I discovered a fissure on the right side, which, being pressed upon, occasioned horrible pain. Three days afterwards I performed the incision of the sphincter. At the end of fifteen days the stools were free, and without pain. She remained in the hospital two months, and was perfectly cured.

Case 2.—The patient speaks:

In the month of May, 1810, I was attacked with violent pain on going to the water closet. I was treated for hemorrhoids. Leeches were applied, and I experienced relief. The violent pains ceased, but during the whole of the summer I suffered in a trifling degree. In the month of December following, I was attacked by a paroxysm of dreadful suffering. The pains became much more violent an hour after having been at the water closet, in which state they remained for five or six consecutive hours. Recourse was then had to leeches, the symptoms being ascribed to hemorrhoids; but on this occasion they produced no effect. The sufferings returned with the same violence at each evacuation. I was then placed on a soft and cooling diet, with hip baths. I was also immersed in warm baths. I passed some days with trifling pain, but every eighth I suffered from paroxysms of increasing violence. Since the month of May last, I have not had a moment's respite. I could not go to stool without experiencing the most agonizing pain: it seemed to me that something was lacerating the passage; and, for seven or eight hours after the excretion, I felt a continual pulsation and shooting in the part, with constriction and dryness, as if a red-hot iron had been introduced into it. So violent were the pains that they occasioned fever. The same cooling treatment was continued, but without success. Tents, covered with cerate and opium, were attempted: sometimes they could not be introduced, and, when they were, my sufferings were greatly increased.

M. Boyer was consulted, who ordered injections: they calmed the pain, but did not destroy the evil. He told me that the operation alone could cure me radically. I submitted to it, and in a few days afterwards I went to stool almost without suffering, and now I experience no pain.

Case 3.—A needle-woman, thirty-six years of age, felt pains in the rectum for two years past, which at length became insupportable, especially on going to stool. She entered the hospital on the 8th July, 1811. Clysters, baths, and potions were tried, without effect. The anus appeared to be in a natural state; but, when I wished to pass my finger into the rectum, I experienced a strong resistance, and I occasioned great pain. I felt, on the right side of the gut, and a little posteriorly, a fissure and a hard excrescence. The torments I caused were dreadful, on which account I abridged my research.

On the 2d of August, the patient had an injection early in the morning; at nine, I cut through each side of the sphincter. Five days afterwards, the patient voided a stool without suffering, and the largest tents now occasioned no pain.

On the 16th of September, the patient left the hospital cured.

Case 4.—Louise Richeraud, twenty-one years of age, suffered for three months acute pains in going to stool, although clysters were administered for the purpose of facilitating the evacuation. The excrements were hard and small.

Local bleedings and suppositories had been employed without effect. The anus was strongly contracted, and cleft at the left side, a little posteriorly. I cut down on the fissure itself. During the seven first days which followed the operation, a retention of urine obliged us to have recourse to the catheter. At the end of twenty-two days, all treatment ceased, the largest penetrating into the anus without pain, and the patient went freely to stool.

Case 5.—A female, twenty-six years of age, had always enjoyed good health, when a coach, in which she was travelling to Orleans, was overturned. She received no contusion, but was greatly terrified. This was followed by nervous symptoms. Soon afterwards, hemorrhoids and obstinate constipation took place. When the bowels became again open, the evacuations were daily more painful, and were accompanied by acute pain, notwithstanding the clysters, vapour baths, laxatives, and other remedies employed. Tents were also used without effect. Her medical attendant, having seen a fissure on the right side of the anus, suspected a venereal cause, and recommended the employment of mercury.

The patient in terror consulted me. She was emaciated, pale, and weak; unable to leave her house; took nothing but liquid aliment, and her rest was almost entirely destroyed. The introduction of the finger into the anus occasioned cruel pain, which was prolonged for several hours, and accompanied by piercing cries.

I made an incision through the fissure and the sphincter. During the inflammation of the wound, some pains were caused by the introduction of the tents, but they finally disappeared, to return no more.

Case 6.—A female, fifty-six years of age, during convalescence from malignant fever, had an obstinate constipation for the space of two months. The feces, large as chesnuts and very hard, required the greatest efforts for their expulsion, although clysters and mild laxatives were not neglected. Gradually the evacuations became more difficult, were preceded and accompanied by acute pain, which lasted many hours, and left the patient during a part of the day in a state of profound stupor. Sleep at night was often interrupted by convulsive movements. The patient, having learnt by experience how dangerous it was to pass a single day without an evacuation, had renounced all solid aliment and wine, and lived on fresh broths, pottages, and milk. Many practitioners recommended the use of tents, which she could not support, however slender. A suppository of elastic gum was also useless. These means aggravated the symptoms.

After four years of torment, she came to consult me. I recognised a fissure on the right side of the anus, and a spasm of the sphincter. I made the incision on the fissure itself, and soon the patient was enabled to go to stool without pain. For five years she has continued to enjoy good health.

Case 7.—In the month of December, 1809, I was consulted by M. N., who had, on the left side of the anus anteriorly, a superficial fissure, accompanied by spasmodic constriction; fifteen years previously he had gone to Geneva, and, after an excess in eating and drinking, he experienced constipation and difficulty of passing his urine; which long resisted the use of baths, fomentations, clysters, and bleeding. The hemorrhoidal veins swelled, with wandering pains in the limbs. Leeches mitigated the pain, and disgorged the distended vessels; but the pains soon became permanent, especially on evacuating the bowels, however soft the excreted matter.

Several practitioners counselled the strictest regimen, relaxing drinks, and tents; but all was ineffectual. When I operated, the coarctation of the anus was very great; the evacuations extremely painful. The incision was made on the fissure itself, was followed by no untoward symptom, and the result was most satisfactory.

Case 8.—M. P——, of Chartres, aged forty-one years, had a fissure of the anus, with spasmodic stricture of the sphincter. Too much debilitated, when I operated, to give me all the particulars that I desired, the following were sent to me in writing several months after he was cured:

From the age of eighteen years I had hemorrhoids; my fundament has always been narrow, and the evacuation of feces difficult In 1806, I had a severe illness. My hemorrhoids became very painful: one of them appeared at the exterior of the anus. Bleedings did not calm me. I experienced, in going to the water-closet, the most acute pain. In the efforts which I was compelled to make, a laceration to the extent of six lines was formed in the anus. Since this period the evil has always been on the increase. I passed seventeen days without sleeping. I lived on chicken broth, grapes and pears, to avoid increasing the excrement. At the end of a month my pains abated; but the orifice of the anus was scarcely large enough to receive the end of a canula. Towards the end of 1808, I went to Paris, for the purpose of consulting Mr. ——. My countenance was jaundiced, and liver affected. He prescribed an aperient drink and the application of twenty leeches. The anus was at that time almost free from pain; but, in the spring of 1809, the pains recurred with more force. I returned to Paris, to consult the same surgeon. He examined the anus, and ordered tents, which I did not apply. I consulted another, who prescribed laxatives and "douches ascendantes." I employed the latter, but the second application caused such acute pain that I could not support it. I then had recourse to you, sir, and the following is a copy of your written answer.

"There exists on the left part of the margin of the anus an hemorrhoidal excrescence, divided into two parts. Between the two portions is a fissure, which extends into the anus for the space of about six lines. The pain which the patient experiences at the time of going to stool, and afterwards, depends solely on the fissure and on the spasmodic constriction of the sphincter. I have frequently observed this malady; and I have discovered no other means of curing it than by making an incision, thereby converting the fissure into a simple wound, which destroys the constriction of the sphincter, and enables it readily to yield to the passage of the excrement."

I showed this opinion to M. Pinel, who was entirely of your advice. You know what I experienced at the time of the operation. My health at this moment is good. I have no pain in the anus; no difficulty in going to stool; no hemorrhoids; a little heat only when I have taken too much exercise: I then take a clyster, and all disappears. I frequently hunt; I am free from ennui, and my health was never better.

Cases of Constriction, without Fissure.

Case 9.—Madame de —— from her childhood complained of extreme difficulty in the expulsion of feces. Ascribing this phenomenon to a heated temperament, her parents paid little attention to it, administering occasional clysters, and thus several years passed away. Between the age of fifteen and sixteen, Madame de —— could not evacuate the bowels without the aid of injections; and even then the discharge was accompanied and followed by great pain.

A feeling of laceration and pricking caused a suspicion of hemorrhoids. The pains, which at first were supportable and of slight duration, became gradually more acute, and continued fifteen or sixteen hours after every evacuation.

All the physicians and surgeons of the country where Madame —— then resided were consulted; those of Havre and Rouen also. One of them introduced, for the space of three months, pledgets of lint covered with cerate.

At length the increasing sufferings of the patient brought her to Paris. She consulted Desault, Vicq d'Azyr, Sabatier, Portal, and Chossart. The latter employed tents for several months. The pains became agonizing, and the anus constricted to such a degree as no longer to admit the pipe of a syringe. She then had recourse to purgatives every other day; but this produced extreme emaciation, and increased pain during the evacuation.

Worn out by the treatment, and losing all hope of being cured, in consequence of an indiscreet assertion of Desault that she would die if she could not bear the tents, she renounced the succour of medicine for the space of four years. At the solicitations, however, of her friends, she at length consented to have recourse to me. I made two lateral incisions on the spincters of the anus, and kept the lips of the wound apart by tents. The cicatrization was prompt, and the evacuations became easy. The pains entirely ceased, and the patient recovered her spirits and a healthy appearance.

Case 10.—Laurent Cistern experienced, at the age of thirty-one years, after long constipation, acute pains in the anus, which efforts to go to stool rendered agonizing. From this moment the alvine evacuations could not be passed without inexpressible anguish, which continued for four or five hours. When he was up or in bed he suffered little, but when seated the pains were more acute; on which account he quitted the trade of a shoemaker. During thirty months laxatives were the only remedies which produced relief.

On the 26th of November, 1809, he entered the Hôpital la Charité. I discovered, at the right side of the inner part of the anus, a hard, thick, and painful callous point. This point was the principal seat of the pain which was experienced on going to stool. The sphincter contracted strongly on my finger, especially when I pressed upon this hard point. I put the patient on low diet, and prescribed the use of diluents and a gentle purgative. On the following day a clyster was administered; and, on the third, I cut the sphincter through the hard, thickened, and painful point of which I have spoken. The wound slowly cicatrized. During some time the fecal matters occasioned obscure pains in passing over the wound, and afterwards over the cicatrix. But the pains ceased, and many months after his exit from the hospital he came to see us, and was perfectly cured.

Case of Constriction, where the existence of Fissure was doubtful.

Case 11.—Alexis Cuby, fifty-two years of age, has experienced, for two years and a half past, pains in going to stool. These, which were slight and only felt at intervals at the commencement, became so acute that the patient compared them to a red-hot iron introduced into the rectum. The use of injections prepared with narcotic substances procured but transitory relief. All other remedies were equally unsuccessful.

When he consulted me, I told him that an operation alone would put an end to his sufferings. The anus was so contracted that my finger penetrated with difficulty, and caused intense pain. Towards the left side, where the most acute pain was experienced, I *thought* I felt a fissure. I cut the sphincter at this part, and applied tents for the space of forty-one days: during the latter month of this period he went to stool without experiencing the smallest pain.

M. Boyer says that he has never seen the disease in children or adolescents: it may therefore be important to add the case of an infant, which occurred in his own hospital. It is reported in the Dictionnaire des Sciences Medicales.

Case 12.—A child, three or four days old, was brought to the Hôpital la Charité by its nurse, from whom we learnt that it had voided no excrement. The belly was tense and painful, and the child cried continually. The anus, on examination, was found to be extremely constricted, so that a probe could scarcely be passed into it. The sphincter was divided in the direction of the os coccygis. Meconium and feces came away immediately in abundance, which so relieved the child that it ceased to cry, and was perfectly cured.

From the Glasgow Medical Journal.

ON THE LAWS OF SYMPATHY.

By James Sym, M.D.

The Physiologist "would be engaged in no unthrifty employment if he were to follow up and arrange, in a regular classification, the specific and mysterious relationships which single organs hold with single organs, and which are subordinate to the general harmony of the entire machine."—*Study of Medicine*, vol. ii. p. 493.

1. *The Sexual System of the Female.*

The sexual system of the female comprises the uterine and mammary organs; the former destined to prepare and maturate the fœtus, the latter to nourish the infant. But whilst both furnish constituent materials for the offspring, the ovum must be supplied with semen, and the milk with saliva and other digestive fluids, before they can enter into its organization. Hence, the demands upon the sexual organs are only occasional, because they are determined by circumstances connected with independent agents.

The medium through which these agents give intimation, that a proper occasion for a supply of organizable matter has arrived, is, in either case, a mass of very sensitive erectile tissue; which being stimulated by communication with the genitals of the male, or the tongue of the infant, solicits the disengagement of an ovum, or an excretion of milk. The clitoris and nymphæ, and the nipples, are accordingly so placed as to receive most conveniently their proper excitement; and the associated glands discharge their products into mucous ducts leading ultimately to the external surface of the body.

We thus see that the two branches of the female sexual system, which perform similar general functions, resemble each other in structure: we shall further find that they are associated together in all their actions by that concordance both in time and mode, which has received the name of Sympathy.

When the menstrual flux is about to establish itself at the age of puberty, and the uterus acquires the faculty of conceiving, the breasts also become fit for performing their appropriate function; and the uterine activity is accompanied by a peculiar mammary emotion, to which the female had been previously a stranger. Excitement of the erectile tissue of the nipples induces sympathetically an excitement of the corresponding apparatus of the genital organs.* When the womb becomes the focus of an increased determination of blood during pregnancy, the breasts are simultaneously enlarged, and secrete a nutritious fluid. When the infant is first applied to the breast of a puerperal woman, after-pains are excited in the uterus; the evacuation of the one organ being accompanied by an expulsive effort in the other. Whilst one breast yields milk to the infant, the other sometimes spouts forth its contents in a salient jet, which shows that a sympathy subsists between the two breasts. A nurse, who sleeps with her husband, requires a less stimulant regimen than when they live apart from each other; and the Hottentots irritate the vaginæ of their cows in order to make them yield larger quantities of milk.†

When the menses find difficulty in establishing themselves at the age of puberty, or become suppressed in after life, an emission of milk, or even of blood, may take place from the nipples; and when they are about to take their final leave of the constitution, the breasts are apt to become morbidly irritable. Women affected with uterine pains, premonitory of abortion, are simultaneously affected with pains in their breasts;‡ and when the fœtus dies, the breasts become flaccid, the uterine plethora having subsided. A false conception is accompanied by a secretion of milk in the same manner as if a real fœtus were contained in the womb; which shows that it is the condition of the maternal organs of generation, and not any thing peculiar to the fœtus, that produces the sympathetic affection of the breast. Accordingly, in puerperal fever, when the uterine secretions are suspended, the breasts cease to secrete milk. Nymphomania, which depends on preternatural erethism of the genitals, has been excited in puerperal women by a sudden check given to the mammary evacuation.

Hence, the uterus and mammæ sympathize with each other both in their healthy and morbid functions. Are they also liable to be simultaneously affected with disease of structure?§

The left mamma of a young girl became, without any external cause, affected with acute inflammation, during the uterine plethora that immediately preceded the commencement of menstruation. An unmarried female, subject for several years to chronic inflammation and enlargement of the uterus, had also a painful enlargement of the right mamma. By the repeated application of leeches to the vulva, and other remedies directed to the uterine affection, both organs were apparently restored to health: but in consequence of imprudent exertions the uterine disease returned, and its return was immediately re-accompanied by the affection of the breast. The mother also of this patient was long subject to excessive menorrhagia, and the uterus was not only much enlarged, but the os tincæ was in a fungous state. Her right breast became simultaneously affected to a still greater extent than that of her daughter; but as she has ultimately recovered from both diseases, it would appear that neither organ had become scirrhous. I was present some time ago at the extirpation of a diseased breast in which an abscess had previously formed between the nipple and axilla, and after discharging its contents had healed up, leaving the mammary gland converted throughout into a mass of scirrhus. Soon after the operation the uterus was discovered to be diseased; it rapidly swelled up so as to occupy the whole hypogastric region; an abscess burst, discharging its matter by the anus; and the tumour in a great measure subsided; but still the uterus was found to be in a scirrhous state; and the disease, after extending to the vagina, carried the woman to her grave.*

We are, therefore, warranted in concluding, that the two branches of the sexual system of the female, which perform analogous functions, resemble each other in structure, and sympathize with each other in all their actions, whether healthy or morbid, functional or nutritive.

2. *The Salivary System.*

Whilst the sexual organs afford nourishment to the offspring, there are others which elaborate matter subservient to the nourishment of the individual. The most important of these are the parotid, maxillary, sublingual, and perhaps the thyroid glands, constituting the salivary system of mastication; certain minute glands supposed to exist in the mucous membrane of the stomach for supplying the gastric juice; and the pancreas, the secretion from which is the last ingredient in the process of chylification. It is only when food is presented that large demands are made upon these organs for their contribution of digestive matter: so that in the general nature of their functions they are analogous to the sexual apparatus.

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* Paré's Works, Lib. xxiv. chap. 4.

† Study of Medicine, vol. v. p. 96.

‡ A lady, who has very frequently miscarried at an early stage of pregnancy, informs me that the pain uniformly seizes her right breast, when the right side of the hypogastrium is affected, and *vice versa;* as if each horn of the uterus had under its influence its corresponding mamma.

§ Since the apparatus by which a secreting organ is nourished, and that by which its peculiar product is eliminated, are not so distinct from each other as to admit of the one being long or seriously deranged, without an extension of the derangement to both, we are almost prepared to admit as a corollary to the proposition expressed in the text, that the two branches of the female sexual system shall have a tendency to be simultaneously affected with structural disease. The only satisfactory method of establishing this corollary, however, is by an examination of facts.

* The association of organic disease of the mammæ with a similar affection of the uterus is so common, that a surgeon ought not to extirpate the former without having previously satisfied himself with regard to the soundness of the latter.

With regard to their structure, the salivary organs of mastication consist of secreting glands, furnished with mucous ducts: and in their vicinity erectile tissue is placed in such situations as to expose it most freely to be stimulated either by the food itself, or by the movements attending its introduction. This tissue may surround the orifices of the ducts, as is the case with the maxillary ducts; or it may be placed at some distance from them, as is the case with the pulps within the teeth, and the papillæ upon the anterior part of the tongue. In the former situation it may be compared with the nipples; in the latter, with the clitoris. Wherever it is placed, it is excited by the admission of the ingesta; and this excitement calls forth a secretion of saliva from the associated glands. Too little is known of the gastric and pancreatic secretions to enable us to determine with precision by what modes they are discharged: but it is admitted that the erectile villi of the stomach become ruddy during gastric digestion, and that the peristaltic motion of that viscus is accompanied by tumefaction of the spleen, which is likewise composed of erectile tissue.*

Lust excites salivation; and it is a vulgar remark, that women with restless protrusive tongues are lascivious. Highly seasoned food, which stimulates inordinately the erectile apparatus of the salivary system, tends likewise to stimulate the organs of generation: and the two kinds of sensuality depending upon these excitements, are apt to be associated together in the same individuals. Pain in the teeth is a torturing accompaniment of pregnancy: it does not arise from disease of their osseous structure, but from excessive irritability of their papillæ, the natural office of which seems to be to solicit a supply of saliva whilst the morsel is grinding between the teeth, in like manner as the papillæ of the tongue do when it is under the softer trituration of that instrument. Pregnancy is also accompanied by a salivary flux, by eructations and vomiting of a limpid fluid from the stomach, and by longing, the unwonted manner in which the digestive organs are excited, in sympathy with uterine demands of a totally different nature from those experienced by the unimpregnated female, causing an extravagance of appetite,—a craving for articles, which would not have been suggested by a healthy stomach, influenced only by its virgin modes of excitation.

When the uterine functions are deranged in chlorotic girls, the erectile papillæ of the mouth and stomach can not only bear, but imperatively demand such coarse and unnatural stimuli, as would be most offensive to a person in the enjoyment of uterine health. In suppression of the menses, the salivary glands, as well as the mammæ, are sometimes morbidly irritable. Dyspepsia is usually the most distressing symptom of polypus uteri. When the fœtus dies in utero, the salivation and vomiting immediately cease, which, as well as their occurrence at an early stage of pregnancy, shows that it is from the functional activity,* and not the increased bulk of the womb, that these sympathies arise. Preternatural excitement of the mammary glands, by a sudden suppression of milk, is apt to induce ptyalism; and a powerful mean of reducing hernia humoralis is eliciting a copious excretion of saliva and gastric juice by emetics.

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* We have all a right to indulge in conjectures respecting the use of the spleen. My conjecture is, that the spleen is the erectile organ of the pancreas. Every other erectile organ is destined to give intimation of some want to the apparatus which is destined to supply that want: and there is not another gland in the whole body, secreting a fluid analogous in its uses to that of the pancreas, and required to do so upon the presentation of a foreign substance, that is not provided with an erectile organ to give notice that a proper occasion has occurred for an emission. Unless, therefore, the spleen is the erectile organ of the pancreas, both present anomalies. As the spleen is the largest mass of erectile tissue, so the pancreas is the largest gland of its order in the system; and the former is placed in the most convenient situation for receiving notice that the pancreatic secretion will be required. The notice is given, as in other cases, by mechanical friction, which is occasioned, in this instance, by the extensive movements of the stomach, engaged in the labours of chymification.

* A fœtus may arrive at maturity, although it has no connexion by a placenta and umbilical cord with the mother; the only possible source of nourishment being the liquor amnii. This fluid, it would appear, it absorbed by the skin, which thus performs the same office as the skin of certain aquatic animals, and which, in a young fœtus, is scarcely distinguishable by its characters from its continuation along the internal alimentary canal. If, then, the liquor amnii is an alimentary secretion from the uterine membranes, whilst the placenta is, perhaps, the erectile excitant, communicating wants from the fœtus to the mother, is it to be wondered at that the stomach should sympathize vividly with the vast change of employment given to the impregnated uterus? Is the thymus gland the salivary organ of the fœtus, pouring its assimilating leaven into the thoracic duct by its lymphatic vessels, in order to render the absorbed liquor amnii fit for entering into the animal organization?

In cases of atony of the digestive organs, the tongue acquires a polished appearance; and diseased spleen is accompanied by paleness of the lips, and a satin-like surface of the skin, depending obviously on want of tone in the erectile tissue. Nausea excites salivation; the stomach secreting an excessive quantity of gastric juice in order to effect the digestion of its unwholesome contents, and this being accompanied by a sympathetic discharge from the salivary glands of mastication. Gastrodynia depends upon morbid irritability of the erectile tissue of the digestive organs, and is resolved, by an emission of gastric fluid from the secreting glands, in the same way as an erection of the penis is resolved by an emission of semen. The secretion of gastric juice is accompanied by a copious flow of saliva from the masticatory glands, and the relief follows equally whether this is rejected or swallowed. It is partly from its virtues as a sialagogue, that tobacco gives temporary relief to pain of the stomach; the salivation occasioned by its use being productive of a sympathetic secretion of gastric fluid.

Mumps are accompanied by inflammation of the mammæ in girls, and the testicles in boys. A woman whose right breast was extirpated for scirrhus, and who now labours under uterine disease, is at the same time affected with bronchocele, which always increases in bulk during her painful menstruations. Iodine reduces bronchocele, and also causes wasting of the mammæ and testicles. Organic disease of the spleen, accompanied by dyspepsia, is more apt to occur when the uterus becomes disordered at the cessation of the menses, than at any other period. Puerperal inflammation of the womb is so uniformly attended with disease of the spleen, that the latter affection may be regarded as part of the pathology of the former. The thyroid gland sometimes inflames, upon weaning a child, to such a degree as to impede deglutition.*

A case of œsophagitis, simulating the symptoms of hydrophobia, was accompanied by a simultaneous enlargement of the salivary glands, thyroid and pancreas:† and when the salivary glands have been long impaired by the use of tobacco, the pancreas is apt to become scirrhus.

We are thus brought to the specific law, that the whole of the salivary and sexual organs, which perform analogous functions, resemble each other in structure, and sympathize with each other in action.

3. *The Conductors of Nutriment.*

The different portions of the alimentary canal, the lacteals and lymphatics, and the blood-vessels, constitute a system of organs employed in conveying nutritious matter to the arterial extremities, in order that it may there deposit its various products. The manner in which this function is performed seems to be by a sort of suction; the pressure of consecutive parts of the tube being alternately diminished and augmented, so as to occasion a progressive movement of the ingesta. Such is certainly the case in the alimentary canal: and since the thoracic duct, when tied, and punctured below the ligature, discharges chyle in a full jet, it is obvious that the motion of that fluid cannot be entirely dependent upon any power of attraction excited by the right side of the heart. It is equally obvious that there is no vis a tergo derived from the left ventricle capable of acting upon the distal extremities of the lacteals. The motion of the chyle must, therefore, be the result of an independent action of the lacteals and thoracic duct themselves: and it is difficult to conceive any mode of propulsion different from that of the intestinal canal, which shall be adequate to produce such an effect. The same reasoning is applicable to the lymphatics both of the serous and tegumentary surfaces, and of the solid substance of the body; and although the venous circulation still affords matter of controversy to physiologists, it appears to me demonstrable that it is neither effected entirely by the propulsive nor by the attractive powers of the thoracic viscera.* It is by alternately expanding and contracting, that the heart itself transmits the blood through its cavities: and the empty uncollapsed state of the arteries after death proves that these vessels discharge their contents by the contraction of their coats, followed by an expansion; whilst the existence of valves at the origin of the aorta, indicates that their contraction is synchronous with the dilatation of the left ventricle. Even in the arteries, although the propagation of consecutive movements is much more rapid along them than along tubes of a more yielding nature, such as the intestinal canal, still these movements are progressive. This must be the case in dilatable tubes; and, accordingly, when one finger is applied over the subclavian, and another over the radial artery, the pulse is found to be appreciably later at the wrist than at the clavicle.

Now, the whole of these organs consist of tubes, furnished with annular fibres, generally of a whitish colour, capable of expanding and contracting, and therefore entitled to be regarded as a species of muscles.* They are lined internally with a membrane which secretes a defensive substance, gradually changing in its properties, according as the matter with which it is liable to come into contact is more or less completely assimilated to the living fibre. This membrane forms valves, by means of which the progressive advancement of the ingesta is secured, and between which the intervals are greater or smaller, according as the tubes are more or less capable of resisting dilatation from the varying quantity of their contents. Such is the case not only with the whole series of canals by which the injesta are carried from the mouth to the arteries, but also with the lymphatics, which obtain their supplies either from the surfaces of the membranes, or from the component substance of the body itself. Hence, they all resemble each other in structure.

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*Lond. Med. and Phys. Journal, No. 342, p. 165.

† Medico-Chirurg. Review, No. 10. p. 655.

* Apply a tourniquet above the elbow so as to compress firmly both the veins and artery; and select a portion of vein upon the back of the hand that has no branches. Apply the fore and mid fingers upon the upper extremity of this portion, and while the fore finger retains its place, draw the mid finger down the vein so as to deprive the included part of its blood, then lift the mid finger, and the vein instantly becomes as turgid as if no tourniquet had been applied. Here both the propulsive and attractive powers of the heart and chest are intercepted by the tourniquet; and the motion of the blood has no connexion with atmospheric pressure, because it takes place in whatever position the arm is held. In short, it depends on the action of the vein itself.

When liquids are injected into the veins of a dog, he instinctively performs an act of swallowing; and the whole arterial system is stimulated to increased activity; the fauces on the one hand, and the arteries on the other, being portions of the apparatus by which nutriment is conveyed to its final destination. In like manner, the pulse is accelerated during the ordinary process of digestion, and diary fever is excited by a surfeit. Increased action of the secernents, in order to supply the waste occasioned by profuse evacuations, is accompanied by an excessive activity of the alimentary absorbents. "Such," says Dr. Mason Good, "is the wonderful sympathy that pervades the entire frame; and that runs more particularly through that extensive chain of action which commences with the digestive, and reaches to the assimilating organs, constituting its two extremities."† Nurses are often affected with excessive thirst at the moment the infant lays hold of the nipple, and before any evacuation requiring a new supply of liquids has taken place: and conversely, a copious draught of gruel excites an immediate secretion of milk.

In performing sanguineous transfusion, it is found, that when the quantity of blood injected is so great as to incommode the vascular system, an effort to vomit is produced. The final cause of coughing and asthma is to evacuate the thoracic viscera; and it is much more frequently the blood-vessels than the air-vessels that require this mode of evacuation. In hooping-cough, the expulsive effort is extremely powerful; the chest repeating its spasmodic contractions so frequently after each expansion, that a most efficacious repulsion of blood must take place against the current in the veins of the system. The natural action of the veins being thus opposed, or even reversed, a reverted action of the stomach accompanies it, and the fit generally terminates with vomiting. For the same reason vomits are useful in asthma; the reverted motion of the stomach causing a retrogade effort in the veins, which, being deducted from their progressive action, and aided by the compression of the chest, relieves the pulmonary vessels of their excessive load. Small quantities of tartar emetic injected into a vein excite immediate vomiting. This cannot arise from local irritation of the stomach, because it takes place when that viscus is removed and a bladder substituted. We may suppose that the vein is organically sensible that it has admitted a deleterious substance; and that its repugnance to it is propagated by sympathy to the fauces, which performing their part of a process of vomiting, call into sympathetic action the muscles that were wont to assist the stomach in performing its part of the same process. The collapse of the veins which accompanies sudden hemorrhage is rapidly followed by an increased contractile effort of their muscular tunic, in order that a sufficient resistance may be given to the arterial extremities, for preventing a fatal continuation of syncope. This effort, by which the veins press the blood back against the arterial current, is sympathetically attended with vomiting; which, accordingly, is always regarded as an index of reaction having commenced. Upon the same principle, when the fauces are lightly tickled, so as to contract upon the irritant in order to expel it, vomiting is excited: but when they are so firmly pressed as to prevent them from contracting, the stomach is not affected.

With regard to permanent strictures and dilatations, constituting the principal structural diseases of the muscular tunic of the nutritive tubes, I am at a loss for materials to enable me to determine whether or not these are apt to occur simultaneously in the different organs pertaining to this system. I think, however, we are fully prepared to admit the specific law, that these organs resemble each other in structure, and sympathize with each other in action.

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* Send a chemist to examine the roof of a cotton mill, and after applying his tests he will pronounce the bars by which it is supported much more akin to a gridiron than to joists, because they are not composed of wood. But, as the architect will still insist that they are, to all intents and purposes, joists, so I insist that fibres communicating loco-motion by their contractions are muscular, whatever stuff they may be composed of, and whatever effect unnatural stimuli may have upon them. Blood-vessels were not meant to circulate needles and oil of vitriol.

† Stud. of Med. Vol. III. p. 204.—This author, in his views of sympathy, the general scope of which I have adopted, appears to me to lay too much stress upon the association of the extremities of a chain of action. The same sympathy pervades the intermediate links equally with the extremities; but in many cases the latter are most exposed to observation; and in some there are no intermediate links similar to those that sympathize at the extremities. Such is the case with the sphincter muscles.

4. *The Tegumentary System.*

Through the integuments foreign matter is absorbed and secreted, and communicates impressions, either organic or sensitive, to the central masses of the nervous system. The extremities of the organs performing these functions might be liable to suffer injury from the various substances to which they are exposed; and to protect them from such injury may be regarded as the specific function of the tegumentary membrane.

The rete mucosum, by which the cuticle and colouring matter, constituting the defensive apparatus of the skin, seem to be generated, corresponds with the mucous surfaces of the internal canals, viscera, and cavities; and the sebaceous glands, which are processes of the rete mucosum, correspond with the follicular glands of the mucous membranes, of which they in like manner are processes. The papillæ containing the sensitive organs of the skin and tongue correspond with the villi of the alimentary canal, and both are endowed with erectile properties. The perspiratory vessels of the skin, which terminate under the cuticle, or at the bottom of the sebaceous follicles, correspond with the exhalents of the lungs, and with the secernents of the large intestines and kidneys;* whilst its absorbents correspond with the lacteals of the small intestines. The defensive apparatus is fully developed throughout the whole tegumentary system; but of the other three sets of organs some are more conspicuous in certain parts than in others, where, however, the rudiments of them are still discernible. Thus, in the tongue, the sensitive predominate over the other organs: in the skin the sensitive and excretory predominate over the absorbent: in the small intestines the sensitive and absorbent predominate over the excretory: and in the lungs, kidneys, and, perhaps, the large intestines, the excretory predominate over the rest. These modifications render the sympathies of the tegumentary system somewhat partial; those portions which resemble each other most nearly in structure and function, being the most apt to sympathize together. At the same time, the intimate connexion subsisting amongst all its component organs, prevents any of them from being completely exclusive in the determination of their sympathies, which are thereby rendered extremely intricate. As my limits preclude a minute investigation of this extensive field, I shall only examine some of its more prominent features..

Arsenic is too powerful an irritant to have its lesions confined to any one set of organs contained in the mucous membranes: accordingly, when received into the stomach in quantities not sufficient to produce sudden death, it excites inflammation of the mucous surfaces of the alimentary, respiratory, urinary, genital, and lachrymal passages, and occasions an eruption over the skin. Colchicum injected into a vein, the defensive membrane of which is adapted to a conductor of nutriment,* excites, in an especial manner, inflammation of the internal surface of the veins, and of that portion of the alimentary canal in which the absorbents chiefly prevail. Blisters applied to excoriated surfaces, so as to irritate the sebaceous glands, produce inflammation of the urinary membrane; and when we allay the irritation of the skin by means of poultices and fomentations, the strangury is sympathetically allayed. A sinapism applied to the side of a lady, having a very irritable skin, produced urticaria at the flexures of the joints, and upon the forepart of the neck, where a blister had been applied some months previously. Violent erysipelas of the head and face, accompanied by general irritation of the skin, was excited on two occasions in the same patient, by the application of a gum ammoniac plaster to the knee. Small-pox, though inoculated at a single point, affect the whole of the rete mucosum, and also the mucous membranes. Cow-pox, in like manner, but in a slighter degree, involve the entire rete mucosum in sympathetic irritation; hence, by re-inoculation on the fifth day, an advanced pock is produced, because the skin had been previously passing through the successive stages of the disease; but a local increase of the excitement was necessary to prevent the inflammation from going off by resolution. In scarlet fever, the papillæ of the skin, tongue, and fauces are inflamed; and the alimentary canal is peculiarly apt to sympathize, because it abounds in erectile villi. Irritation of the papillæ of the mouth, particularly the pulps of the teeth, during dentition, occasions papular eruptions and affections of the alimentary canal. Measles seem to affect the excretory apparatus of the skin, which is expanded over its whole surface, but is most fully developed in the sebaceous glands: hence, the sympathies of this disease are communicated to the respiratory and lachrymal membranes, which are peculiarly adapted to excretions. When the follicles of the stomach are irritated by indigestible food, nausea is first excited; then the mouth, the lips, and the anus become hot and stiff; elevated whorles next appear upon the alæ nasi, temples, neck, axillæ, and groins, where the sebaceous glands are most fully developed; and finally, the entire surface becomes covered over with the nettle-rash. Stone-pock, stye, and other whelks, arise from sympathy with chronic inflammation of the follicles of the stomach. Inflammations of the respiratory and urinary membranes produce respectively catarrhal and gonorrhœal ophthalmia, because those membranes are adapted to excretions. Suppressed perspiration occasions, not only nephritic and pulmonary affections, but inflammation of the excretory apparatus of the alimentary canal, which is situated chiefly in the large intestines: hence, dysentery.

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* The kidneys bear a close analogy to the cutaneous follicles, the urine being discharged from the arterial extremities into the tubuli uriniferi by transuding through their mucous linings, precisely as the liquid perspiration is thrown into the follicles of the skin, whence it oozes out in drops.

* The skin, after birth, comes into contact with substances that are absolutely foreign to it in their nature; and, therefore, its secretions are cuticle, nails, &c. The inside of the alimentary canal meets with substances which are still foreign, although gradually approaching towards animalization: its secretion is a semi-liquid mucus. It has been argued that the blood, and even the chyle, possess vital properties; and the internal surface of the vascular system is defended by a fluid which physiologists hesitate whether to regard as mucus or serum. Lastly, the surfaces of those living solids, which are only subject to come into contact with each other, are merely defended by a serous exhalation.

In order to avoid unnecessary prolixity, I must now take it for granted, that the sympathies I have adduced, together with many others, which will readily occur to every person who has paid attention to the pathology of the skin, are fully sufficient to establish the specific law, that the different portions of the tegumentary system, which perform similar functions, resemble each other in structure, and sympathize with each other in action.

And I trust the induction has now been carried sufficiently far to warrant the conversion of the specific conclusions, severally obtained from the four classes of facts which have come under review, into the general law, that *organs, performing similar functions, resemble each other in structure, and sympathize with each other in action.* If, however, a single incompatible fact can be brought forward, this law must be at once abandoned, as derived from defective data. Now, in my examination of the subject I have not stumbled upon any such fact; on the contrary, I have invariably found a correspondence, both in function and structure, pervading those organs which are the most apt to sympathize together in their actions.

Thus, a flow of tears frequently accompanies micturition; the lachrymal and urinary bladders* being similar reservoirs for excretory fluids elaborated by similar glands. Vomiting sometimes attends the concluding expulsive acts of parturition; the stomach and uterus being hollow muscular viscera, analogous to each other both in function and structure.—Hence, too, the early stages of pregnancy cause fulness of the epigastrium; and uterine derangements excite those spasms and distentions of the stomach and other parts of the alimentary canal, referred correctly by nosologists to the head Hysteria. Contraction of the diaphragm would not enlarge the capacity of the chest, where the ribs not prevented from following its descent by muscles attached to the shoulders and neck: hence, when the right side of the diaphragm is incommoded by inflammation propagated from the liver or right lung, a sympathetic pain affects the right shoulder; and when the heart or left lung is diseased, the left shoulder becomes the seat of the sympathetic pain.* The knee and hip joints act in harmony with each other, their flexions and extensions being synchronous; hence, the sympathetic pain of the knee in morbus coxarius. The elastic white ligaments of the joints, which maintain the included parts in a state of compression, augmented or diminished in obedience to local circumstances, without any suggestion of the will, resemble in this respect the hollow viscera, and like all fibrous tissues are stimulated by cold: hence, coldness of the feet, in which these principally abound, produces spasmodic pains of the bowels and contraction of the bladder. The pericardium may be regarded, both from its function and structure, as a large bursa mucosa: hence, metastatic† attacks of gout and rheumatism. The brain, the spinal marrow, and the ganglia of the sympathetic nerves, resemble each other in function and structure; hence, powerful mental emotions excite a particular feeling at the præcordia; and reciprocally, inflammation propagated from the diaphragm to the semi-lunar ganglia causes phrenzy: intense thought deranges the functions of the stomach; and stomach complaints reciprocally affect the mind: irritable females are subject to violent periodical headachs, which are accompanied by excessive nausea, and generally vomiting:* morbid action of the ganglia of the intestinal plexuses causes torpidity and irregularity of the bowels; and by sympathy with the spinal marrow, chorea is often produced.

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* It is from the lachrymal sac that the gush of tears proceeds, and it is prevented by pressing the finger upon the puncta.

* It may be alleged that the distribution of the respiratory nerves affords a more direct explanation of these sympathies than the similarity of function of the antagonizing respiratory muscles. I not only admit the truth of this allegation, but I feel confident that all the cases of sympathy, which I have been endeavouring to embrace within a general law, will, in the course of time, be rendered amenable to a similar explanation. The researches, however, of the physiologists, who have devoted their talents with such eminent success to the elucidation of the functions of the nerves, have not yet been carried far enough to authorize the construction of a complete Theory of Sympathy upon the principle of nervous association: and, as a correct statement of the Laws of Sympathy, derived entirely from the observation of ascertained phenomena, may not only be of use in guiding us ultimately to a sound theory, but may also aid us, in the meantime, in the detection of the primary sources of complicated symptoms, and in the judicious application of remedies to obscure diseases, I have confined my attention exclusively to the links by which the phenomena of sympathy are connected with each other, without attempting to trace their further connexion with other more general principles of the animal economy.

† Metastasis seems to arise from the organ primarily affected having, when at the acmè of its disease, communicated a sympathetic affection to another similar organ, in which the disease, once introduced, runs an independent course.

From the London Medical Gazette.

VARICOSE VEINS OF THE LEGS.

To the Editor of the London Medical Gazette.

Sir,—Permit me to state in your Journal the result of the practice which I have adopted in the treatment of varicose veins of the legs. Without being new, it is not generally known; and some experience which I have had of it has been uniformly favourable.

It is unnecessary to state that varicose veins are common upon the leg and thigh; that sometimes one trunk becomes dilated and tortuous, sometimes another; that sometimes all the knotted veins are evidently branches of a single trunk, while in other cases they form a plexus, entirely surrounding the leg; that varicose veins occasionally burst; that they frequently give rise to obstinate ulcers; that they are always attended by a sense of weight and uneasiness in the limb; and are a constant source of distress to the patient. That where the complaint is slight it becomes temporarily subdued by the use of a laced stocking; that where it overspreads the whole limb, the same remedy, or a roller, constantly applied, may be recommended to a patient as an ascertained inconvenience which prevents every other; and that often, where the veins are most knotted and prominent and threatening, the practice of puncturing them occasionally, and in the intervals employing a roller round the leg, with a compress upon the part, will frequently cause the most dilated vessels to contract.

Still it has always appeared a desideratum in surgery to find a safe means of *partially obliterating* varicose veins, between the dilated portion and the vena cava. Where this has been successfully accomplished, it is found that pressure, continued for a few weeks, causes such contraction of the veins that they afterwards do not swell and become knotted as before. The vessels are then exposed to little more than the moderate pressure of the vis a tergo of the heart, not to the column of fluid in the cava and iliac veins from the heard downwards. The means which within my recollection have been tried for the purpose of producing obliteration of veins, are, the ligature, excision of a part of the vein, and simple division. The first of these methods produces fatal inflammation in a great proportion of cases; the two latter much less frequently indeed, but yet occasionally. However, the division of a vein is probably unattended with risk where the vessel is small. I saw a patient who has a few small tortuous veins on the outside of the thigh: one of these burst in the night, and she lost a considerable quantity of blood. The surgeon who attended her afterwards divided the vein with a lancet, just above the knotted part, which had burst, and it became obliterated.

The method which I employ consists in applying potassa fusa, made into a paste with soft soap, to the integument covering the vein. I cut a hole one third of an inch in depth, and of the requisite length (from an inch to two inches) in a piece of leather, upon which adhesive plaster has been spread: the plaster is then applied to the skin, so that the length of the aperture is transverse to the vein or veins I would obliterate. The hole in the plaster is then filled with the caustic paste; and a piece of adhesive plaster, and a roller applied over *that*, prevent its shifting. In seven hours the roller, plaster, and paste, are removed, the part washed with warm water, and a linseed poultice applied. In about ten days the slough produced by the action of the caustic separates; in a week to ten days more the sore is cicatrized, and the cavity of the vein is found to have become obliterated.

For the first two days after the application of the caustic paste the adjoining part of the vein is hard and sore upon pressure: to relieve this, nothing has been necessary besides desiring the patient to remain at rest, with the leg on a sofa, to take opening medicine, and to live upon broth and tea, and to apply to the part the liquor plumbi dilutus, as a lotion. The flow of the blood through the vein has commonly ceased about the fifth or sixth day: sometimes I have found, on tapping with my hand the swollen vein below the caustic, that by the second day the fluctuation has ceased to be communicated to the blood in the part above. In a few instances, when the slough of the integument has separated, the vein has been seen as a second slough, traversing the bottom of the ulcer. The vein always appears to be obliterated for some little distance above and below the part exposed to the action of the caustic.

I have applied caustic thus upon the great saphena vein above the knee, but more commonly to the same vein below the knee; to a part evenly dilated, and across a knotted part; to the same saphena minor, immediately below the knee, and to the saphena major, in two places at once, near the knee and near the ankle; it has never failed to obliterate the vein in any case which I have witnessed; no hemorrhage has ever taken place; no local inflammation more than I have described; no symptomatic fever; and I think it may be considered as a useful addition to the means commonly employed in the treatment of varicose veins of the lower extremities.

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* A lady, who is very accurate in observing the progress of her ailments, assures me that she can foretell, from the seat of the headach, whether she is to vomit acid matter or bile: in the former case, the pain affects the left side of the head, in the latter, the right; as if the right and left semi-lunar ganglia were respectively associated with distinct hemispheres of the brain.

I remain, Sir,
Your obedient servant,
HERBERT MAYO.

From the Glasgow Medical Journal.

ON THE DIAGNOSTIC SYMPTOMS OF THE DISLOCATION OF THE FEMUR INTO THE ISCHIATIC NOTCH. By ANDREW BUCHANAN, M. D.

The dislocation of the femur into the ischiatic notch, although the second in point of frequency of occurrence, is unfortunately not marked by the same unequivocal characters, that enable us to detect the other dislocations of the hip joint. Sir Astley Cooper, to whom every surgeon owes so much of his knowledge of these important injuries, considers the dislocation into the ischiatic notch, as the most difficult to detect. The symptoms, which he considers as characteristic of it, must, I should think, be observed, in every case, where the dislocation actually exists; but so completely do some other affections of the joint simulate the character he has described, that we should fall into error, were we in all cases to adopt it as our guide. A truly diagnostic sign, by which this form of dislocation can be easily recognised and distinguished from all other affections of the joint, is still a desideratum in practical surgery. The mode of examination, described below, appears to me in some degree to supply that desideratum. Perhaps, therefore, the two following cases, and the observations upon them, may not be unworthy of a place in the Glasgow Medical Journal.

The first case is one, in which no dislocation of the femur actually existed, but which was mistaken for a dislocation into the ischiatic notch, from its assuming the characters, considered as characteristic of that affection.

During the summer of 1821, a young woman was brought into the Glasgow Infirmary, after falling to the street, from a window on the second story. She was a good deal bruised about the loins, and soon after her admission, her right leg became paralyzed. For these complaints she was treated in the usual way; and they were nearly removed, when I first had an opportunity of examining her. The lower limb then presented the following appearances:—When she stood erect she could not rest the weight of the body upon it; the toes only touched the ground, the heel being from half an inch to a quarter distant from it; the toes were turned in; the knee was slightly bent and advanced, and the attempt to straighten it produced much pain; the thigh was more oblique than its fellow, with respect to the axis of the body; the trochanter major felt less prominent and farther back than natural, rendering the contour of the thigh less convex than on the opposite side; there was considerable mobility of the joint, but the abduction was most difficult and painful. These symptoms, continuing unchanged for a considerable length of time, and corresponding so much with those enumerated by Sir A. Cooper, as characteristic of the dislocation into the ischiatic notch, I was disposed to think, that the femur might be luxated in that direction. The fallacy of this opinion, however, became at length apparent, the patient recovering the perfect use of her limb, and the thigh resuming its natural aspect, without any attempt at extension having been made.

In reflecting upon the preceding case, it occurred to me, that it would be of much importance in supposed cases of dislocation into the ischiatic notch, to institute a comparison of the limbs, not while resting in the same plane with the body, but when bent to a right angle with the abdomen; the reason of which must be sufficiently apparent, from considering the anatomy of the joint, and the nature of the injury. The head of the femur being thrown almost directly backward, and very little upward, it is clear, that so long as the limbs remain in the plane of the body, there can be very little difference in their relative length; since that difference is only measured by the extent of the displacement upwards. But if the limbs be slowly bent towards the abdomen, the difference in their length must become greater and greater, till it attain a maximum, when the limbs are at right angles with the body; the luxated limb being then shortened by the whole extent of the dislocation backward. I had no opportunity of verifying this reasoning by actual observation, till the occurrence of the following case, in 1826, and I had then the satisfaction to find, that the mode of examination described above, yielded the only symptoms, which were perfectly unequivocal.

On the 12th of November 1826, I was called to visit a child, three years of age, that had been hurt six days before, by a fall from a chair. How the accident took place, I could obtain no particular account; but the child had never since been able to use the limb in walking, nor, indeed, to stand upright without assistance. When, with the support of her mother, she stood upon the sound limb, the other presented the following appearances:—The toes only touched the ground; they rested in the same transverse line with the metatarsal bones of the other foot, and were a little turned in; the knee was considerably bent, and advanced before the other one. The limb had altogether more the appearance of being drawn up by a voluntary effort, than of being actually shortened. No measurement was made, but the shortening, if any existed, must have been very inconsiderable. The contour of the haunch, and the position of the trochanter, did not appear materially altered, and the head of the bone could be nowhere felt on rotation. The great mobility of the limb rather seemed inconsistent with the supposition that a dislocation existed. The thigh could be bent towards the abdomen with great facility, and seemingly without producing much pain. The abduction and rotation were more painful, and performed with less freedom.

From these symptoms, it was difficult to infer what was the real nature of the injury which had been sustained. All uncertainty, however, was at once removed by placing the patient upon her back, upon a wooden table, and bending both thighs to a right angle with the trunk of the body. The shortening of the limb, which, in the former position, was little perceived, became at once so remarkable, that, I believe, I do not overestimate it, when I say, that, even in so young a subject, it was more than an inch, the knee of the affected limb resting in the hollow below the condyles of the other one. The trochanter also now felt much farther back, or nearer the table, than on the sound side.

The same evening that I first saw the case, my friend Dr. Watson did me the favour of examining it. He agreed with me in thinking that the femur was dislocated into the ischiatic notch. Next day we consulted with Dr. Young and Dr. Auchincloss, and the opinion of those gentlemen concurring with our own, we proceeded to attempt the reduction. The patient was placed in a sitting posture on a small table, to which she was fastened down by a sheet, and farther secured by a man standing astride the table immediately behind her. The extension was made by means of a bandage fixed round the ankle, while Dr Watson lifted the head of the bone over the edge of the acetabulum, by pulling directly outwards a handkerchief passed round the top of the thigh. In the course of a few minutes, the head of the femur passed, with an audible snap, into its socket. The child, in a short time afterwards, regained the perfect use of the limb.

The flexibility of the dislocated limb may not always be so great as in the preceding case, but if the limb be at all capable of flexion, the gradually increasing difference in length between it and its fellow, will serve to point out the nature of the injury. Cases of contusion, or of inflammation of the joint, simulating, like the one first detailed, the appearance of dislocation into the notch, may be at once detected by the above mode of examination; for, if the thighs are of equal length, when bent to a right angle with the abdomen, there can be no dislocation.

The same mode of examination is also of use in enabling us to distinguish cases of dislocation into the foramen ovale. There is, however, this difference in the symptoms, that the affected limb, instead of becoming shorter on flexion, becomes gradually longer, for the obvious reason, that the head of the femur is no longer behind the acetabulum, but before it. In a case of this kind which I saw last year, in the infirmary of this city, under the care of Dr. Anderson, the dislocated limb was not at all longer than its fellow, when the measurement was made in the plane of the body, but there was a difference of about two inches, when the thighs were bent to a right angle with the abdomen.

[A few days after the preceding case was sent to the press, the following one came under the notice of Dr. Buchanan.]

James Murdoch, a stout athletic man, was brought into the hospital soon after the hour of visit. A mass of clay had fallen upon him not long before, from a height of about six feet. He was knocked down upon his left side, the thigh of which was, according to his description, in a state of flexion at the moment of the accident; on being extricated, he found himself unable to use the left limb in walking or standing.

When I first saw him he was a-bed, lying upon his back. I immediately bent the two thighs to a right angle with the abdomen. The left thigh was then about two inches shorter than the right, and this difference of length gradually diminished, on bringing back the limbs to the horizontal position. From this examination alone, I felt quite satisfied that the left femur was dislocated into the ischiatic notch, as I know no other affection of the hip-joint that exhibits such characters. The opinion I was thus led to form, was confirmed by other symptoms, which it is unnecessary to enumerate. I need only mention, that the flexion of the thighs was performed without any difficulty, and that Dr. Auchincloss had adopted the same mode of examination, and deduced from it the same opinion, before I saw the patient.

Dr. Auchincloss immediately proceeded to reduce the dislocation. An attempt was first made, in the way recommended by Sir A. Cooper; with this difference, that the extending force was applied, not above the knee, but at the ankle. On this attempt failing, the patient was placed upon a bench, in a sitting posture, and bound down, nearly in the same way as in the case already narrated. The extending force was then applied, as before, while the upper part of the thigh was drawn horizontally outward, and the leg rotated in the same direction. In the course of about a minute from the commencement of the extension, the reduction was completed.

The mode in which this and the foregoing case was reduced, appears to me to possess some decided advantages over the plan more usually adopted, as might indeed be inferred from the great ease with which in both cases the reduction was affected. On this subject I should wish to offer a few observations, had I not already trespassed too far upon your limits. Perhaps, however, you may be able in a future Number to spare room for an essay I had the honour of reading before the Medical Society of this city, in which this and some other important topic connected with the dislocation of the femur are particularly considered.

From the Glasgow Medical Journal.

OBSERVATIONS ON POLYPUS OF THE UTERUS. By John Macfarlane, M.D.

The term polypus is now applied by all practical writers, to such uterine tumours only as grow from some part of the internal surface of the womb, possess a pyriform shape, and are covered by a mucous membrane.

The apparent rarity of this disease even in the practice of many able and experienced practitioners, will, I am afraid, be occasionally found to proceed from a want of care in discriminating between various morbid states of the uterine passages, which, although accompanied by vaginal discharges, and other symptoms of a general character, are in their nature extremely dissimilar. Hence, we are too apt to employ the same routine of practice, for every form and combination of disease in this situation, without making ourselves accurately acquainted with the actual condition of the parts, of which the different discharges are often mere symptoms. It is only, therefore, by examination, per vaginam, that we can obtain the necessary information; and were this precaution more frequently adopted in women liable to habitual hemorrhages, and to mucous, sanious, or watery discharges from the vagina, polypus would certainly be found to be a much more frequent disease.

I have no intention, in the following paper, of examining into all the varieties of this disease, or of adopting any of the numerous and often fanciful classifications which have been laid down by various authors; but only to confine myself to some of the more prominent and important topics suggested by the cases that have come under my own observation. In classifying uterine polypi, Deschamps, Alibert, and others, have been guided by their texture and consistence, dividing them into the vascular, fungous, fibrous, sarcomatous, osseous, &c.; by Levret, they have been named according as they are attached to the fundus, body, or cervix of the uterus; by Roux, according to the texture from which they originate, as from the submucous cellular tissue, from the proper substance of the uterus, and from its external surface; while by others, the distinctions are taken from the position of the polypus, its being confined to the cavity of the uterus, having passed through the os uteri, or from hanging low in the vagina. As many of the above distinctions are purely theoretical, and can have no practical tendency whatever; and as they will seldom be appreciated during the patient's life; we will substitute for them the following arrangement, which is sufficiently simple for our present purpose, and obviously of some practical importance.

1st. Simple or benign polypus, of whatever texture, and to whatever part of the uterus it may be attached, provided it has undergone no malignant change, and the uterus itself is free of disease.

2d. Where the polypus has either undergone a cancerous or other malignant change, or is complicated with organic disease of the uterus. So far as the surgical treatment of this disease is concerned, it is obviously of the highest importance to ascertain the condition of the tumour, and state of the uterus, before we undertake any operation for its removal.

I.—Although many accidental varieties may be discovered in the structure of uterine polypi, it will generally be found, that they are of a firmer and more fibrous texture, than those which arise from any other cavity of the body. This may depend on the nature of the part from which the disease originates, or the thickness and vascularity of the uterine substance; and in consequence of the condensed texture of the mucous membrane, and its very intimate adhesion to the parts below, more resistance may be here offered to the development of such tumours, than is likely to be encountered in any other situation.

The repeated and sometimes profuse hemorrhages which take place from the vagina, during the progress of this disease, have been attributed by Sabatier, Levret, Herbiniaux, and other writers, to the pressure of the os uteri on the neck of the tumour, impeding the return of blood, and causing engorgement and rupture of the superficial vessels. The same circumstance has also been assigned as the cause of the pyriform shape of uterine polypi: it is evident, that when the tumour has passed through the os uteri into the vagina, it will enjoy more room for expansion, than when confined to the cavity of the uterus; and on this account, as well as from the impediment to the free return of blood, in consequence of the pendulous state of the tumour, we find, that the inferior part is considerably more developed than the superior. But the pyriform shape and narrow pedicle, so characteristic of this disease, are often observed before the polypus has emerged from the uterus. I have met with three cases, in which this point was verified on dissection, and I have seen several other preparations illustrative of this fact.

Case I.—Mrs. O., aged 41, requested my advice on the 14th September, 1818, on account of alternate discharges of blood and muco-purulent fluid from the vagina, which had commenced about two months after the birth of her third child, and continued for nearly two years: she was much exhausted, her countenance blanched, breathing hurried, and her pulse above 100, and feeble. She complained of pain in the lumbar region and thighs, with an uneasy weight in the vagina, when she was erect; and occasionally the urine was obstructed. On introducing the finger into the vagina, the os uteri was felt about an inch and a half from the vulva; it was slightly open, but otherwise natural. The uterus felt heavy when raised on the finger, and behind the neck its walls bulged out, and appeared to be either thickened, or separated by some internal cause. She died about the end of the following December, of tubercular phthisis. The uterus was found after death to contain a polypus as large as a hen's egg, having a small pedicle which was attached over the opening of the right fallopian tube.

We have no means of correctly ascertaining the existence of a polypus, until it has opened the os uteri and passed into the vagina. The following case is curious, as illustrating the success of a diagnostic conjecture, while the tumour was confined to the womb; the efficacy of the ergot of rye in expelling it, and the spontaneous cure that was effected by ulceration of the pedicle.

Case II.—The widow of a sea-captain, residing at the Broomielaw, applied to me in February last on account of profuse and almost daily discharges of blood from the vagina. These had existed for ten months, previous to which she had had for some years an almost habitual leucorrhœa. Her health had suffered considerably, her appetite was greatly impaired, and she was unfit for any exertion. She was confined in a recumbent posture; mild laxatives and enemata were employed to obviate constipation, acids were given internally, cold was freely applied to the abdomen, and astringent lotions injected into the vagina, after which a plug was ultimately introduced. When this plan of treatment had been carefully persisted in for three weeks, without the slightest benefit, I requested permission to make an examination. The os uteri was so far open as to admit the point of the finger, but neither tumour nor any other indication of disease was discovered in this situation. As in the last case, however, there was an apparent, but not very obvious enlargement of that viscus. This might depend on various causes: but as it was possible that a polypus or some other tumour existed in the uterus, from which the exhausting hemorrhages proceeded, it occurred to me, that the ergot of rye might be advantageously employed. As the character of this patient was highly respectable, and I had no reason to believe, either from the history of her complaint, or from her appearance, that she was pregnant, I anticipated no bad consequences from a trial of this remedy; a drachm of the ergot was therefore infused in 4 oz. of boiling water, and 1 oz. administered every two hours, without producing any perceptible effect. On the following day, having obtained from a different source, another quality of this medicine, an infusion of the same strength was prepared, and administered in the same manner. After the second dose, severe and rather continuous pains were produced, which lasted more or less for about eight hours after the fourth dose was taken. I was requested to visit her during the night, when I found a smooth firm tumour projecting at the os uteri, about the size of a small lemon. In a few hours the bulkiest part of it had passed into the vagina, and the slender pedicle could be felt with the finger. Our object was now so far attained, but as their existed great irritation in the uterus, with frequent pains, which distressed her much, several doses of laudanum were given before these were removed. On the fourth day from the last administration of the ergot, she felt something fall down and press against the perinæum, on rising to void her urine. This was found to be the polypus detached at the pedicle, and was readily extracted by the fingers. She had two slight returns of floodings, but in a few weeks was restored to her former good health.

The known efficacy of the ergot in exciting uterine contraction, will readily suggest, in cases analogous to the above, the employment of this medicine, in preference to every other means, whether medicinal or mechanical. It is certainly superior in every respect to a practice alluded to by Gardien, in his "Traité d'Accouchemens," tome i. p. 430, in which a M. Bonnie dilated the os uteri by means of sponge tents, and afterwards applied a ligature to the polypus.

A spontaneous cure is sometimes effected when the pedicle is small, either by the neck of the uterus firmly compressing it; or more frequently the propulsive efforts of the uterus, by stretching the pedicle, causes it to ulcerate. This termination is by no means so common, however, as many authors would have us to believe. I have had frequent opportunities of examining tumours thus expelled, several of which were pronounced to be polypi; but after careful examination, the one above referred to was alone entitled to be considered as a specimen of this disease. The others were either the fungous excrescences, denominated "vivaces" by Levret, and supposed to arise from an ulcerated spot in the cavity of the uterus; or more generally fleshy moles, now believed to be the product of conception. The true polypus which was separated by the action of the uterus, was of a firm texture, covered by a mucous membrane, and weighed about 6 oz. Its substance was dense and homogeneous, showing only a slight fibrous appearance about the pedicle; a small portion of which was attached, and about the size of a quill. The one-half of this specimen was carefully dissected, and the other macerated, but without throwing any light on its structure or mode of growth. The mucous coat, after a few days, was easily separated, and the great bulk of the tumour that remained, broke down under the fingers, showing in some parts a lamellated arrangement of its texture. In this, as in every other specimen of uterine polypus which I have had an opportunity of examining, no very obvious disease of the mucous membrane was discoverable. It was sometimes found slightly thickened, irregular, and traversed by enlarged veins, but was always separable from the surface of the tumour; and it never appeared as if the whole bulk of the polypus had depended "on a morbid change of that membrane, and a slow subsequent enlargement of the diseased portion;" a circumstance which Dr. Burns, in his excellent "Principles of Midwifery," considers as the most frequent variety of the disease. From whatever part or texture of the uterus the disease originates, it is probable that in a great majority of cases the mucous tissue of this viscus is not its primary seat; but that in consequence of the tumour being developed behind it, it is gradually pushed forward, becomes elongated, and is afterwards liable to slight morbid changes, arising chiefly from mechanical distention or chronic inflammation. There is reason to believe, however, that in very large and old polypi, particularly in those which have a tendency to assnme a malignant action, the mucous envelope will be found so much changed and assimilated to the morbid mass which it covers, as to have lost its natural appearance and distinctive characters.

Several well authenticated cases on record prove that pregnancy is not incompatible with the presence of a considerable sized polypus in the uterus. In some, the existence of this disease was ascertained before impregnation took place, whilst in others, it was recognised only after delivery. The following case presents an interesting, and in some respects perfectly *unique* example of this combination. I therefore detail it more minutely.

Case III.—Mrs. S., aged about 30, residing with her father, a respectable farmer, about 4 miles to the south-east of Glasgow, was taken in labour of her first child, on the morning of the 13th October, 1825. On visiting her at 10 o'clock in the evening, I found the pains regular, but indicating only the first stage of labour; the os uteri dilated to the size of a dollar; its edges soft and natural; the membranes protruding slightly during uterine action, and the child's head presenting. About one o'clock of the following morning, the os uteri was fully dilated, the membranes had given way, and the bearing-down efforts were forcible. About 4 the child was born; it was feeble, and from its premature appearance, tended to corroborate her own opinion, that she was hardly eight months gone in pregnancy. In half an hour she had a slight bearing-down pain, by which the placenta was partly protruded. On attempting to remove it, by gently pulling the cord, a greater resistance was encountered than I expected, from its depending and apparently detached situation. This was ascertained by introducing the finger, to arise from the adhesion of the placenta to a large, firm, globular tumour, which filled the vagina, and rested on the perinæum. The centre of the placenta opposite the cord adhered to the apex, and the rest of the placenta embraced the sides of the tnmour; from which, however, it was nearly detached. While making this examination, the placenta was wholly separated and extracted, and the hand speedily introduced into the cavity of the uterus, to ascertain the nature and connexions of this tumour. I imagined at first that the uterus was inverted, but the absence of every bad symptom for half an hour after the birth of the child, and the circumstance of the cord having been free and of sufficient length, and no force employed, rendered this opinion less probable. The tumour was easily pushed up before the hand, when a firm polypus of immense size was found growing from the very centre of the fundus uteri, which, from its weight and descent with the placenta, had caused a partial inversion. When this point was rectified, I examined the tumour more minutely. It was of almost cartilaginous hardness, and intimately attached to the uterus by a pedicle as thick as the wrist. About 2 inches and a half from its origin its size gradually increased, and the depending part was larger than a child's head at birth. It was smooth to the feeling, except at the apex, where the roughness was occasioned by the attachment of the placenta. I grasped the neck of the tumour, and by supporting the fundus uteri with the other hand, applied to the parietes of the abdomen, while I made gentle attempts to move the pedicle, I ascertained the extent and firmness of its attachment. This was evidently such as to render any attempt to twist off the tumour, more likely to lacerate the substance of the uterus than the pedicle. During this examination, which did not occupy above a minute and a half, blood was profusely issuing from the apex of the tumour. It was prevented from escaping while the hand was in the vagina, but rapidly accumulated within the uterine cavity. The clots were scooped out, and the uterus excited to contract as much as was compatible with the presence of such a large body within its cavity. By this means I did not expect that the hemorrhage would be arrested by the pressure of the contracted uterus on the surface of the polypus, as the apex of the tumour, from which the blood flowed, was lying in the vagina, but only that general diminution in the size of the uterine vessels, which takes place after every natural labour, with a consequent reduction in the quantity of blood sent to the polypus. It was found, however, when the hand was withdrawn, that blood continued to flow freely from the vagina; and in a few minutes the pulse became indistinct, and she complained of approaching syncope. The pillows were removed from under her head, cloths moistened with cold water were freely applied to the vulva and abdomen, and the windows of the apartment thrown open. For half an hour a few ounces of fluid blood were discharged, after which there was no external hemorrhage. The symptoms, however, continued to increase, and become still more alarming. The lips were colourless, the body cold and clammy, the pulse feeble, fluttering, and sometimes for 3 or 4 minutes imperceptible, with laborious breathing, and great jactitation. About half-past five, in consequence of the alarming appearance of the patient, and the great anxiety of the friends, a messenger was despatched to request the immediate attendance of Professor Towers. In the mean time the cold applications were continued, pressure was applied over the fundus uteri, and with some difficulty she was persuaded to swallow a quantity of undiluted whiskey, every three or four minutes. Some laudanum was procured in the neighbourhood, and ten drops of it, mixed with half a glass of whiskey, and an equal quantity of hot water, were given every ten minutes. Mr. Towers arrived at half-past seven, and on introducing his hand, he found the tumour of the kind, and in the situation I had previously explained to him. He removed a few small clots on withdrawing his hand; but the hemorrhage had ceased for nearly two hours. At this time she was extremely exhausted, and had a most alarming appearance. The stimulants were regularly administered; either whiskey or brandy, joined with laudanum or the black drop, (a bottle of which Mr. Towers had brought with him,) was given, as often as the pulse became imperceptible. She was at times insensible, and her anxiety and restlessness were uniformly aggravated for about half a minute after the stimuli were administered, when the pulse became rather more distinct. When she slumbered for a minute or two, she always exhibited symptoms of great distress when she awoke. Bottles of hot water were applied to the extremities and trunk, but her incessant restlessness prevented them from being effectual in raising the temperature; and hartshorn was applied to the forehead and nose. These means were assiduously employed during the whole day, with the effect of only rousing her at intervals, and rendering the pulse a little more distinct for a few minutes, when it again sunk, and the train of urgent symptoms immediately re-appeared. About 4 o'clock, P. M., the pulse became more perceptible, the breathing more calm, and the countenance less anxious. I gave her then a drachm of laudanum in a glass of brandy, which in a few minutes procured sleep, that lasted for an hour. After this her pulse became fuller, and the colour of her face and heat of skin somewhat improved. At six, I left her in charge of one of my advanced and most intelligent pupils, Mr. (now Dr.) Hugh Wood of Dumfries, with orders to remain with her during the night, to administer small quantities of brandy for an hour or two till reaction was fairly established; and if for two hours the pulse continued to improve, to desist from the stimulants, but to give beef-tea at short intervals during the night.

On the following morning she was remarkably easy. The pulse was rather full, and about 100 in the minute: she had considerable heat of skin; slight uneasiness in the hypogastrium; urgent thirst; headach, and vertigo: lochia plentiful. She was enjoined to be kept quiet and cool; to have gruel; to omit all kinds of stimuli, and to take a dose of castor oil.

On the 15th, she had severe pain in the hypogastrium, occasioned by inability to void urine. The catheter was employed with immediate relief, and had to be introduced twice daily till the 25th, and as the discharge was fœtid, injections of tepid water were frequently thrown into the vagina. The depending part of the polypus was within half an inch of the vulva. It completely filled the vagina, and pressed on the neck of the bladder. In a few days, from the acrid quality and abundance of the discharge, which resembled dark bloody serum, the vagina and labia became painful and excoriated. Frequently bathing the parts with a cold infusion of camomile, and injecting three times a day a strong decoction of the oak-bark and alum into the vagina, afforded her considerable relief.

On the 21st, the discharge was less irritating and offensive. She had pain only when the bladder was distended, and the pulse had fallen to 90, but was weak. The antiphlogistic regimen was now a little relaxed, and she was allowed beef-tea, chicken-broth, arrow-root, and similar mild nourishment.

From this period she slowly recovered, and was able to be out of bed in about three weeks; but she was for some time longer much annoyed when in an erect position by the weight of the tumour, and she was only able to void urine when lying on her back, with the head low, and the breech elevated. In about three months, the tumour had decreased so much, as to give her little uneasiness either from its bulk or weight. It was then about the size of a large orange; and I have reason to believe, from her own statement, as well as from that of her husband, that it has not been increasing; but although I have often seen her since that time, I have had no opportunity of making an examination. She has never enjoyed good health since her delivery; she continues pale and sallow; altogether, she appears as if 10 or 15 years had been added to her age. She has at variable intervals had repeated attacks of hemorrhage, with an almost constant discharge of a thin dark coloured fluid like moss water, or of mucus more or less mixed with blood. I have often prescribed for the relief of these symptoms; but every attempt has hitherto failed in persuading her to submit to ligature of the tumour.

It is probable, as there existed in this case no symptom indicating the presence of uterine disease previous to impregnation, that the polypus, if then developed, must have been extremely small, and that it gradually increased in size in proportion to the growth of the placenta which was attached to it. From the general enlargement and activity of the vessels of the uterus, during the whole period of utero-gestation, it is evident, that every adventitious tumour attached to this organ will, during that period, increase in the same ratio with the uterus itself, from its receiving the same increased supply of blood. This result will, however, be more obvious when, as in this case, the blood destined to the nourishment of the fœtus has to pass and repass through the tumour; and it is to this circumstance we are to attribute in some measure its rapid growth. The great diminution that took place in the polypus soon after delivery, evidently showed that its previous large size depended more on its adventitious attachments to the placenta, than on a gradual augmentation of its substance. I consider the adhesion of the placenta to the tumour alone, and its having no connexion with the uterine surface, as the most curious part of this singular case.

The quantity of blood lost was small, in proportion to the long continuance and alarming appearance of the symptoms, and the previously robust condition of the patient. I have often seen more blood lost after an ordinary labour without any disagreeable symptom supervening, yet to this source alone are they to be referred; for it was apparent, that had stimulants not been immediately and unceasingly administered, the vital powers would have sunk irrecoverably. It was found, that during the twelve hours' continuance of this treatment, viz. from 5 A.M. to 5 P.M. she had taken about 17 oz. of ardent spirits, ℥xj. of laudanum, and nearly half a bottle of the black drop, without deranging the stomach, or inducing the slightest tendency to intoxication. From the firm texture of the tumour, and the great thickness of its pedicle, I am convinced, that although a ligature had been accurately and tightly applied to its neck, the bleeding would not have been arrested; for when I grasped the pedicle as firmly as possible with the hand, it had no effect in restraining the hemorrhage.

When a polypus of the uterus is first discovered immediately after delivery, it is important to consider whether we should then attempt its removal by ligature, or delay for some months until the womb has regained its natural size. It may be argued, in favour of an immediate operation, that from the dilated state of the os uteri and neighbouring parts, the hand can be introduced with ease, the exact attachment of the tumour ascertained, and the ligature applied as near the root as may be necessary, having it thus in our power to avoid including any part of the uterus—that many women who are easily alarmed at the prospect of the most simple operation, would more readily submit during that period of comparative ease and comfort, which immediately succeeds the painful process of parturition, than when the mind has had time to call up the ideal difficulties and dangers which not unfrequently present themselves—and that it might even be applied without the patient's knowledge, and thus the exhausting discharges, and consequent bad health which usually succeed, would be avoided. There are a very few cases on record in which this treatment was adopted with success. Mr. Bell of Forres details a case in the Edinburgh Medical and Surgical Journal, vol. xvi. in which a polypus of about six pounds weight was tied, after an instrumental labour, without any disagreeable consequences; and M. Deguise,* after delivering a woman of twins, applied a ligature to the pedicle of a polypus, "du volume d'une poire de bon chretien," which separated on the eighth day.

On the other hand, by delaying the ligature for some months, we expect that an obvious diminution will take place in the size of the tumour, in consequence of a decrease in the size and activity of the uterine vessels, and that we are less likely to encounter urgent or alarming symptoms from this measure, when the uterus has returned to its former volume, than when enlarged, irritable, and its vessels active—a state of parts known to exist for some time after labour has been completed. Under the most favourable circumstances, this operation is not unfrequently attended by painful and somewhat urgent symptoms; and several cases are recorded by Denman, Levret, and others, in which it proved fatal in some cases from hemorrhage, and in others by the supervention of peritonæal inflammation. Now, such occurrences are obviously more likely to happen after delivery, than when the disease is unconnected with pregnancy. No doubt, if the pedicle is small, and the woman neither of an irritable habit, nor prone to inflammatory attacks, it may then be safely tied; but as a general rule, we ought to defer this operation until both uterus and polypus have considerably decreased, when it may be undertaken with less risk to the patient. It might be supposed, that as a polypus is not a natural part of the human body, but a morbid growth, no danger could attend a ligature of its pedicle, provided no part of the substance of the uterus was included. But it is impossible to tie an uterine polypus, without including its external covering, which is formed by an elongation of the delicate and sensible membrane that lines the cavity of the womb, and it is to this circumstance that many of the urgent symptoms resulting from this operation are to be referred. I have observed, and the same remark has been made to me by others, that the symptoms become less urgent, so soon as the mucous coat has been fairly divided by the ligature, and that the remaining substance, being less sensible, may be compressed with greater impunity.

Case 4.—On the 15th March, 1826, I was requested by a midwife to visit Mrs. W. about an hour after she was delivered of her third child, in consequence of a tumour presenting in the vagina. She had had an easy and natural labour; the placenta was retained, and the hemorrhage moderate. On examination, I found a large, firm, insensible, and rounded tumour completely filling the vagina, and protruding slightly at the external orifice. She had a pale exhausted appearance; her pulse was quick and feeble, and she was faintish. The placenta, of course, could not be felt, but the cord was traced over the pubal surface of the tumour. On raising up the tumour, a large quantity of fluid and coagulated blood escaped—it being now evident that the internal hemorrhage had exhausted the patient, and had been prevented from appearing externally by the plugging of the vagina with the tumour. As it became an object of importance to excite uterine contraction, to have the placenta expelled, and to ascertain the state of the tumour, the hand was introduced. The polypus was nearly as large as a child's head at birth, smooth and regular on the surface, of semi-cartilaginous hardness, and attached to the posterior wall of the uterus, about two inches from its orifice, by a pedicle about an inch and a half in circumference, and three inches in length. The pedicle was softer than any other part of the tumour, and might have been easily separated from the uterus by a little force; but as the arteries passing to the tumour were of considerable size, and could be felt pulsating firmly, this procedure was not adopted, lest troublesome hemorrhage should supervene. The placenta was soon detached from its connexion with the fundus, and expelled along with the hand; the polypus again descending into the vagina. On the contraction of the uterus, the hemorrhage gradually ceased, and the pulse soon regained its former strength. It was found necessary for several days to use the catheter, and occasionally to push up the tumour, to permit the escape of the lochial discharge. She had a smart attack of irritative fever on the 19th, which continued for ten days, accompanied with a copious discharge of thin, dark coloured, and fœtid fluid from the vagina, producing painful excoriations. Astringent injections were thrown into the vagina, and the fœtor destroyed by a frequent use of the solution of the chloride of lime. About three weeks after delivery, the tumour had shrunk so considerably, as to allow the finger to pass freely around it, and only gave her uneasiness when she assumed an erect position. There were now several excavations discovered in the inferior part of the tumour from ulceration, into one of which the finger passed for a quarter of an inch, and from which a very offensive pus was discharged. From being formerly robust and florid, she had become pale and exhausted. Mild nourishment, tonics, consisting of bitters, mineral acids, and chalybeates, were administered, to support the strength; and various local applications used from a desire to delay the application of a ligature, until it had been ascertained whether there existed any probability of the tumour being gradually destroyed by an extension of the ulcerative process, which had already commenced. The occasional feeble vitality of such tumours, and the opinion of Ledran that cures have been effected by exciting artificial ulceration in the diseased structure, rendered this conjecture somewhat plausible. At the end of two months, however, it was found that the ulceration had ceased to extend; and although no attempt had been made to fill up the loss thus produced, it was evident, from the smooth and regular feeling, compared with the previously ragged and uneven condition, that partial, if not complete cicatrization had been effected—a conjecture that was subsequently found to be correct.

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* Nouveau Journal de Médecine, tom. ii.

On the 26th of June, at the earnest request of the patient, and in the presence, and with the concurrence of the late Dr. Nimmo, I proceeded to apply a ligature of strong silk cord to the root of the polypus. The patient was placed on her back, with the breech projecting over the edge of the bed, and the thighs drawn up to the abdomen, and the double canula, armed with a ligature, was guided along the finger, which was introduced within the os uteri. When the instrument reached the neck of the tumour, which was accomplished without difficulty, as the os uteri was open and dilatable, and the exact part of the uterus from which the disease originated, was previously well ascertained, one half of the canula was, with the ligature attached to it, cautiously carried round the tumour till it returned to its original situation; and having ascertained, by passing the finger around the pedicle, that no part of the uterus was included, the ligature was gradually but firmly tightened, and the ends secured to the canula which hung from the vagina. She complained immediately of acute pain, which in a few minutes became so severe, that she could hardly be persuaded to submit to its continuance. She was naturally irritable, and as the severity of the pain so immediately after the tightening of the ligature could not possibly arise from inflammation, I determined to allay it by full doses of opium. Accordingly, fully ʒiij. of laudanum were given during the first six hours, before the urgency of the symptoms diminished, or any obviously anodyne effect was produced. During the two following days, ʒv. more were given, in addition to which, fomentations to the abdomen, tepid injections into the vagina, and enemata, were the only remedies employed. She dozed a good deal, and after the first twenty-four hours complained only of pain, when she omitted the opiate. The pulse was soft and rather feeble, but did not exceed 100 in the minute. On the 29th, the ligature was again tightened, and excited a slight return of pain for an hour. It had only divided the pedicle to a small extent; the size and feeling of the tumour were unaltered, and there was only as much discharge of a thin bloody fluid as soiled the finger on making an examination. On the 1st of July it was again tightened. The discharge was now abundant and fœtid, and the vagina and labia were excoriated, but these symptoms were ultimately much relieved by a solution of the chloride of lime. On the third, the ligature came away with the canula. The polypus, from its size, could not be effectually laid hold of with the fingers; it was, however, with some difficulty, extracted by a blunt hook. It weighed 18½ oz., and exhibited, when cut into, a dense fibrous structure. Its mucous covering was considerably thickened, of a deep purple colour, in some places separated and disorganized.

The sanguineous discharge ceased in a few days after the detachment of the tumour, but there continued for three or four weeks a moderate leucorrhœa. She gradually regained her former health and strength, became pregnant in about six months afterwards, and was in due time delivered of a living child, without any return of the disease.

The practice of twisting off uterine polypi, either with the fingers or forceps, similar to those for extracting calculi, was at one time much resorted to, but has now deservedly fallen into disuse. Herbiniaux admits, that cures have in this manner been frequently effected when the polypus was small, and could not be easily surrounded with a ligature; but this circumstance, I imagine, will depend for its success, more on the small size of the pedicle, than on the small size of the tumour. Though the depending part of a polypus be large, it may have a small pedicle, and in this state, if the twisting force is gradually employed, the pedicle may be destroyed without the substance of the uterus being injured; but if the base is broad, the pedicle thick and short, and as generally happens in such cases, its fibres inseparably mixed with those of the uterus, any attempt to twist it off, would in all probability give rise to laceration of the womb. I have reason to believe, that this termination actually occurred, and proved thus fatal a few years ago, in the hands of a surgeon in this neighbourhood. It must be obvious, therefore, that as we are often unable to feel the pedicle, and cannot form a correct notion of its size, or the extent of its attachment, it would be highly rash and unwarrantable, to proceed under such circumstances, to the use of force for the removal of a polypus, when we possess a method which experience has shown to be more generally applicable, safe, and successful. There is another method which was long ago adopted, and appears to have been lately practised with success, by Dupuytren, in the Hôtel Dieu;* but which, although sanctioned by this eminent surgeon, is, in my opinion, unworthy of imitation. It consists in drawing out the polypus from the vagina, exposing the pedicle, and dividing it. In very relaxed habits, when the disease is complicated with a prolapsus uteri, and arises from the cervix, no great force will be required in completing the first stage of this process. When, however, the uterus retains its natural position, and the root of the tumour is broad, and attached near the fundus, we will seldom succeed in effecting our purpose, unless by tearing away the tumour, injuring the substance of the uterus, or causing its inversion. This latter occurrence is not so likely to happen when the tumour is fixed to the cervix, as when attached near the fundus, which is the most frequent seat of the disease. Besides, when the pedicle has been exposed and divided, we will generally find that the uterus at once resumes its former situation in the pelvis, so soon as the extracting force is removed, and that we may afterwards have a hemorrhage which we can with difficulty suppress.

When much difficulty is experienced in extracting a large polypus after its pedicle is divided, Denman, and other systematic writers, recommend that it be allowed to remain in the vagina, until it either excites the expulsive efforts of the uterus, or becomes soft and disorganized. If after the ligature has separated, the entire polypus does not occupy the vagina, but a portion still remains within the uterus, in a situation to be acted upon by its fibres, we may expect that in some cases, the unaided efforts of nature will accomplish its expulsion. There can be little danger, I presume, in delaying for a short time, and attempting to excite uterine action, by a dose or two of the ergot of rye; but I would certainly object to the retention for days, of a large mass of dead and putrefying matter, in an excoriated and irritable vagina. The rigidity of the external parts in old women, who are often the subjects of this disease, particularly in those who have never borne children, will impede in a certain degree the removal of such tumours, but few cases will be encountered in actual practice, where, either on this account, or from the large size of the polypus, properly directed manual or instrumental assistance may not be safely and successfuly employed.

The inability to void urine, frequently observed during the progress of this disease, generally depends on the sympathy between the os uteri and bladder; but rarely on the tumour filling the pelvis, and mechanically impeding evacuation. This occurred, however, in the following case; and I am indebted to Mr. Stirling, under whose care the patient was, for the following particulars. I had an opportunity, along with many other surgeons, of examining this case, and of witnessing the dissection.

Case 5.—Mrs. C., a thin, exceedingly deformed woman, about 38 years of age, first applied to Mr. Sterling, in November, 1821, about nine months after her marriage. She had great pain and tension in the lower part of the abdomen, with inability to void urine; a catheter was with difficulty introduced on account of an immense tumour in the vagina, which was discovered to be a polypus, although neither its pedicle nor the os uteri could be felt. Many years before she had a severe attack of pain, and swelling of the belly, which disappeared in a single night, after a copious discharge of purulent matter from the vagina, which continued for a long period. In consequence of frequent attacks of retention of urine, and as the tumour had descended so low as to protrude a little at the external orifice, it was agreed in consultation to remove it by ligature. She requested a few days' delay after the necessary preparations were made for the operation, which was granted. She was seized immediately afterwards with peritonitis and retention of urine, and it was found, after repeated attempts, that the catheter could not be introduced. As she had an urgent desire to void urine, and as the bladder appeared to be distended, it was agreed in consultation to puncture this viscus above the pubes. Only a small quantity of urine escaped, but she expressed relief from the operation. In two days after she died, evidently from peritoneal inflammation. On dissection, the usual marks of peritonitis were discovered, with sero-purulent effusion into the abdomen. The uterus projected into the cavity of the abdomen, and equalled this viscus at the seventh month of utero-gestation. When it was cut out and inverted, the polypus was found to adhere by *three pedicles*, one about the thickness of the thumb attached to the fundus, and the other two a little distance from the former, and of smaller diameter. The surface of the tumour was smooth and white, and the structure almost cartilaginous. It weighed, with the uterus, upwards of seven pounds.

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* Medical Gazette, vol. ii. p. 31.

It is extremely rare to find a uterine polypus attached by more than one pedicle; but according to Levret,* it is by no means uncommon to find that it contracts adhesions to the cavity in which it is contained. As in the above case there was no appearance at the junction of the body and pedicles, as if the tumour had been originally formed of three separate parts, but as it exhibited a smooth, regular appearance, I think that the one attached to the fundus is the proper pedicle, and that the other two have probably arisen from some old adhesions between the tumour and uterus, which had become elongated by the weight and descent of the polypus. It would appear from a report in the Lancet, (No. 224,) that a case lately occurred to Mr. Lawrence, in St. Bartholomew's Hospital, in which it was found, on dissection, that the large pedicle of the polypus was attached "to the whole circumference of the os uteri." This could not have existed six months before her admission, when, in consequence of the tumour presenting in the vagina, she was delivered by the forceps, but I think adhesion had subsequently taken place between the os uteri and pedicle of the polypus, so as to cause this very broad and unusual attachment.

II. From whatever cause uterine polypi originate, whether they depend on the deposition of a small coagulum of blood, or of lymph, which becomes organized, on the enlargement of a lymphatic gland, or on the generation of a tubercle, as has been asserted by various authors, it is known that they are all liable to chronic inflammation, and we sometimes find that a gradual change is thus effected in their structure and organization, and that they ultimately assume an appearance of malignancy. This state, it must be acknowledged, cannot always be readily discovered. If the uterus is affected about its orifice, the disease tolerably developed, and the constitutional symptoms well marked, we will have little difficulty in our diagnosis; but the consistence of the polypus is seldom calculated to yield us any satisfactory evidence. Many such tumours have been successfully extirpated, without any tendency to reproduction, which, from their hardness, we believe to be scirrhous. Indeed, the structure, on dissection, of a firm fibrous polypus so nearly resembles scirrhus, as to render a mistake by no means improbable. In both forms, the affected portion consists of a hard condensed texture, of a whitish, or slightly yellow colour, irregularly intersected by thick membranous septa. By some authors, the sallow and cachectic appearance of the countenance, the copious discharge of bloody and fœtid matter from the vagina, and the ulceration of the polypus, have been considered as accurate indications of a cancerous degeneration. But although these symptoms may attend this form of disease, they are also frequently present when the tumour is of a benign character, and the uterus unaffected. The unhealthy appearance of the countenance depends on the long-continued irritation, and exhausting discharges; the fœtor of these discharges, on the retention and decomposition of part of the effused blood; while the ulceration of the tumour cannot be considered as an indication of a cancerous action, for superficially ulcerated patches are not unfrequently found in the mucous texture of these tumours; and occasionally, as in case fourth, the ulceration extends more deeply. If the above symptoms exist in combination with severe lancinating pains in the region of the uterus, there will be grounds for believing that a morbid action has begun either in the uterus or polypus, for the removal of which our best directed efforts will prove unavailing. Still, if no very palpable evidence of malignancy can be obtained by examination, we ought not, even under the above doubtful circumstances, to refuse our patients the chance of an operation.

Levret and other authors have recorded cases in which the malignant action originated in, and was confined to the polypus. More frequently the substance of the uterus is first affected, whence the malignant action gradually spreads to and involves the tumour.

Case 6.—M. G., a poor unmarried female, about 58 years of age, came under my care as a city pauper, in August, 1819. Her health had suffered much for three or four years from alternate muco-purulent and sanguineous discharges from the vagina. In the previous January she had an attack of the epidemic fever, was removed to the Infirmary, and dismissed in three weeks in a state of convalescence. From this time her strength gradually declined. She complained of violent pains in the hypogastrium, extending to the back, groins, and thighs, with fœtid bloody discharges, excoriated vagina, and great ardor urinæ. She slept little, became extremely emaciated, her feet and legs œdematous, and her pulse, which was small and feeble, ranged about 120. Having with difficulty, obtained permission to make an examination, I found the orifice of the vagina contracted, and its lining membrane inflamed and irritable. About half an inch within this canal, the finger came in contact with a firm rounded tumour, having, except at two small points, a smooth and polished surface. It had the feel and shape of a polypus, but neither the pedicle nor os uteri could be felt, as the upper part of the vagina was completely filled with cauliflower encrescences. As it was evident that the case was incurable, and as she complained acutely, I did not prosecute the examination farther. The lancinating pains were alleviated by opiate enemeta and suppositories, and by tepid injections into the vagina, of a solution of the extract of belladonna. She died on the 21st of September.

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* Observations sur plusieurs Polypes de la Matrice. Trois. edit. p. 557.

On dissection, the uterus was found about four times the natural size, and had the shape of an hour-glass, from the enlargement being greater at the cervix and fundus. Its substance at the fundus was hard, irregular, tuberculated, in some parts ulcerated, and of a dense fibrous texture. From the centre of this diseased part, a pyriform polypus was suspended, which measured four inches in length, three inches at its most depending diameter, and an inch and a half at the root. It was covered by a mucous membrane, which was in some parts destroyed by ulceration. This had penetrated to some depth in several parts of the pedicle, causing two or three irregular cup-like cavities. The tumour was throughout of a firm texture and fibrous appearance, but the pedicle was so dense, hard, and like the diseased part of the uterus to which it was attached, as to show that the cancerous action had extended to it, but had not involved the body of the polypus. The whole circumference of the os uteri was scirrhus, and covered with cauliflower excrescences.

It is not improbable, that in this case a simple fibrous polypus had been developed in the uterus before either the base or cervix of this viscus became affected, and that the malignant action commenced in the womb, and extended to the pedicle. "On doit regarder comme une axiome demontrè qu' aucun polype n' est squirreux dès son origine."* This is a general assertion to which the most of the writers on this disease give their assent, while they believe that this unmanageable change may ultimately be induced in benign polypi, by a variety of causes. It was long ago observed by B. Bell and by Pott, that the danger is proportioned to the hardness of the tumour; those which are hard being found more difficult to extirpate, more easily reproduced, and more prone to end in scirrhus and cancer. If we admit that in many cases the fibrous polypus is so intimately attached to the uterus, as to present no obvious line of demarcation, we will have little difficulty in believing, that although its pedicle may be divided by ligature, yet from the breadth of its base, and the activity of its vessels, a secondary tumour may be speedily formed. In such cases, although the affected portion of the uterus may not exhibit the appearance of scirrhus, there at least exists a diseased activity in the part, which will seldom be controlled.

Case VII.—Mrs. A. G. requested my advice in April 1824, on account of general dropsy, under which she had laboured for several weeks. It was only a few days before her death, which took place on the 16th of May following, that I was informed she had been long affected with a disease of the womb. She had been liable for years to puriform discharges from the vagina, with occasional floodings, and she was aware of the existence of a tumour in the vagina for a year and a half before she submitted to an examination. About the end of December, 1823, it was ascertained by the late Mr. Tait of Paisley, where she then resided, that she had a polypus of the uterus; and as the disease appeared favourable, she was persuaded to permit its removal. This was accomplished in a few days by ligature. Mr. Tait afterwards informed me that it was of a pyriform shape, very hard, covered by a mucous membrane, and of a fibrous texture. About a month after the operation she had a return of the discharges, which were generally thin, bloody, and fœtid; and she complained of dull pains, and weight in the back and pelvis. These symptoms continued with more or less urgency till her death, but on the appearance of dropsy, they ceased in some measure to excite her attention.

When examining the uterus after death, I found it filled by a tumour about the size of the fist, which arose from the fundus, and terminated in the vagina. It was very hard, and was tolerably smooth, with the exception of one or two irregular projections on its surface. It was very intimately attached to the uterus by a broad firm stalk. The uterus at this point was considerably thickened, but not otherwise diseased.

When the root of a polypus at its junction with the uterus does not drop off soon after the pedicle has been divided by ligature, we find that a secondary tumour is sometimes formed, which differs from the former in the rapidity of its growth, and in its external characters. The vessels of the uterus, in connexion with the diseased part, have their action morbidly increased; the remaining portion of the root becomes elongated, until an irregular oblong-shaped tumour is formed, which assumes the direction, but seldom displays the dense structure of the primary disease. This secondary tumour may have its surface smooth, and polished by the action of the uterus, but it wants the covering of mucous membrane, which always invests a true polypus. This is sufficiently obvious, if we consider that the tumour arises from the broad and open surface of the primary root, the mucous membrane covering which was destroyed by the previous operation.

In the following case, a great variety of morbid changes were discovered after death on the surface, in the substance, and in the cavity of the uterus. It is also curious, as showing the growth of a simple *benign* polypus, from a viscus so completely diseased.

Case VIII.—This poor woman, between 40 and 50 years of age, had a tumour in the abdomen for about 14 years, which had been gradually increasing, and was supposed to be a diseased ovarium. When I first saw her, about the beginning of March last, the day before her death, her abdomen was very prominent, and filled by a large firm tumour. She had been occasionally subject to a copious discharge from the vagina of glairy fluid mixed with blood, and shreds of pellucid membrane like ruptured hydatids, which appeared to diminish the abdominal swelling for a short time. She died of peritonæal inflammation; and although I had not an opportunity of witnessing the dissection, I have since carefully examined the uterus, which is in the possession of Mr. Stirling. It was enormously enlarged, of a natural shape, but hard and irregular, its outer surface being studded over by many tumours of different sizes, covered by peritonæum, and in shape and consistence not unlike polypi. Its walls were three inches in thickness, and throughout diseased, exhibiting a condensed fibrous structure, irregularly mixed with sarcomatous, cartilaginous, and bony depositions. The inner surface of the uterus was irregular and tuberculated, and contained a polypus about the size of a hen's egg, attached a little below the fundus by a pedicle as thick as the finger. This tumour, instead of hanging with its apex towards the os uteri, lay completely across, and produced a deep indentation in the walls of the uterus in contact with it. This unusual position probably arose from the greater disease about the inferior part of the uterus resisting the descent of the tumour. The uterus measured ten inches in length, nine inches in breadth, seven inches from the anterior to the posterior aspect, and weighed nine pounds.

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* Dict. des Sciences. Medic. tom. xliv.

As the neck of the uterus, from its function and anatomical structure, is in advanced life liable to be affected with cancer, we are induced to believe that a simple polypus of this part may more readily become malignant and incurable, than when it originates in any other situation.

From the Medico-Chirurgical Review.

THE MORBID ANATOMY OF THE BOWELS, LIVER, AND STOMACH, *Illustrated by a series of Plates, from Drawings after Nature, with explanatory Letter-press, and a Summary of the Symptoms of the Acute and Chronic Affections of the above named Organs.* By John Armstrong, M. D., Lecturer, &c. Fasciculus I. and II. 4to. pp. 70. with ten coloured plates.

Dr. Armstrong's works on Typhus, &c. which appeared some ten or twelve years ago, procured for their author a reception and patronage from the professional and general public, such as have never before been witnessed or experienced in the annals of medicine. From being a successful author, Dr. A. became, in a very short time, one of the most successful candidates for private practice, in this great metropolis, whither he came a total stranger—and, from a successful career in practice, he turned his attention to medical tuition, where he quickly drew a larger class of students than any other physician in London. Some people may say this was all good fortune—or chance. But we have an idea, that to take such a lead in three different and difficult walks of the profession—writing, practising, and teaching—requires something more than the chapter of accidents, the patronage of friends, or the caprice of fashion. A single glance over the two fasciculi before us convinces us, had we no other reasons for conviction, that Dr. Armstrong has effected a new æra in medical tuition. The introduction of highly finished drawings and models of natural and diseased structures, into purely medical lectures, has never been put into execution on any large scale, till Dr. Armstrong fortunately struck out the path—and the consequences are sufficiently obvious.* These drawings and models are infinitely superior to anatomical preparations, which never can retain any great verisimilitude to the structures during life. By these auxiliaries to oral instruction, the eye is made to assist the ear, not only in the conception, but in the retention of pathological knowledge. Dr. Armstrong is entitled to great praise for the introduction of these aids to medical instruction, because his example *must* be followed by his cotemporaries. The plates in this work do honour to this country, and have never been equalled for beauty of execution and accuracy of representation. This is saying a great deal, after the plates which have appeared from Mr. Annesley and Dr. Bright; but we believe we are perpectly safe in the opinion which we have here given. We must now proceed to the letter-press.

Dr. A. observes, in his preface, that two of the most prominent causes which have tended to retard the progress of morbid anatomy in this country, are—"prejudice on the part of the public, and something very like indifference on the part of the profession." He thinks it easy to account for the former, "on those inherent principles of our nature, which lead us to regard as inviolate the relics with which so many endearing recollections of life are associated."

"Yet it would be difficult to assign any very satisfactory reason for the professional indifference, once so extensively diffused, unless it owed its origin to that scholastic system of education, which directed the mind to nosological technicalities and metaphysical abstractions, rather than to the particular details and general inductions of pathological anatomy." *Pref.*

We fear there is some truth in this severe reflection on medical education!

It is not Dr. A.'s design to delineate all the morbid appearances connected with the organs mentioned in the title-page, but to select those which are the most important, and which have been examined by his own hands and eyes. The annexed symptoms also are drawn from personal observation at the bedside of sickness.

Morbid anatomy, Dr. A. observes, appears a vast field at first sight; but if, for instance, we take the acknowledged products of inflammation, as seated in this or that texture, and to them add tubercle, scirrhus, fungus, and melanosis, we have at once a bird's-eye view of the most important changes which occur in the solids. But the fluids are directly or indirectly concerned in almost all morbid conditions of parts, and these must be taken into consideration. From some good general observations on the changes that take place in the quantity, quality, velocity, distribution, secretions, &c. of the blood, we shall select the following extract.

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* We ought to except Dr. Thompson, of Edinburgh.—*Ed.*

"Again, in some cases of fully developed typhous fever, where the tongue was glazed, dry, and brown, and the lips and cheeks of a dusky or purple hue, the blood drawn from a branch of the temporal artery had the venous colour. The circulation of such blood within the arteries is connected with many of the most conspicuous and curious phenomena of the advanced stage of genuine typhus. The cause of this remarkable change can be shown, by dissection, to depend upon a specific bronchitis, the mucous texture of the bronchial tubes being loaded by dark blood, and besmeared by a copious and tenacious secretion. The experiments of Dr. Edwards have proved, that two changes take place in the blood during respiration, namely, that carbonic acid gas is secreted directly from the blood, and that the oxygen disappears, not having combined, as was formerly supposed, with carbon, to form, thus indirectly, the carbonic acid. Now in the bronchial affection attendant on typhus, one or both of these processes are defectively performed, for the venous blood is returned, imperfectly changed, to the left chamber of the heart, and the circulation of this dark blood in the arterial system is, next to the original taint of the remote occasion, one of the most remarkable changes in the blood in cases of confirmed typhus. Browne Langrish, a century ago, inferred from experiments that the proximate principles both of the blood and of the urine were changed in fever. But with respect to typhus this is not always the case in the beginning, except where acute inflammation takes place in a serous membrane, with high excitement, or where an extreme bronchitis exists, with an imperfectly developed excitement; and then the buffy coat is shown on the blood drawn in the first case, while in the last, the blood usually remains fluid, and the relative proportion between the cruor, fibrine, and albumen often undergo remarkable alterations, apparently from the influence of the bronchitis, which, by impeding the offices of respiration, materially affects the assimilation of the blood. The proximate principles, too, are changed towards the middle and advanced stages of typhus, rather by the defective digestion attendant on the mucous irritation of the alimentary canal, and the defective assimilation attendant on the bronchial affection, than from the direct agency of the specific taint from which the disorder originally arose; for I have found similar changes in the proximate principles of the blood both in acute and chronic disorders, which sprung from remote occasions of a common kind, and which could not communicate any contamination at once to the blood. As far as the remote occasions and ultimate effects are concerned, fevers might be advantageously divided into common and specific; the common proceeding from the ordinary agents of nature, such as heat and cold, used in the popular sense, and the specific arising from peculiar agents, such as putrid matter, and the human contagions. Even in common fevers, it would be easy to prove that the blood undergoes sometimes very striking alterations, but this is more especially the case in specific fevers, the peculiar occasions operating on the blood, and that again, in its turn, influencing the condition of certain solid textures. For example, in puncture from dissection three effects are produced. The first a mere local pustule, without any remote disturbance; the second a considerable topical inflammation, which produces fever, on the ordinary principle of irritation, of a common character from beginning to end; but there is a third and more formidable effect, namely, an absorption of putrid matter, in general from a slight wound, which, tainting the blood, produces true typhous fever, usually of the continued type. Now if putrid matter be so introduced into the blood as to give rise to a distinctly marked fever of this specific sort, the brain and its membranes, the bronchial lining and that of the small intestines are invariably, so far as my dissections have extended, affected by the appearances of increased determination or inflammation, when the disorder runs its definite course of about three weeks; and as these appearances are found in the male and female, in the young and old, whatever may have been their temperaments or habits, so it is reasonable to conclude, that the contamination of the blood operated specifically on the forementioned textures. If it be contended, that the capillary injection of the above named parts is the effect of the continued excitement, the objection admits of a ready answer; since in common fever, in acute rheumatism for instance, when the excitement is often higher, and remains longer, such effects are not uniformly displayed. In like manner, the contagions of small pox, measles, and scarlatina first operate on the blood, and that fluid being thereby changed, the solids are specifically affected, especially the skin, and mucous membrane of the air passages; and these affections, too, if left to themselves, and even often in despite of medical applications, have a determinate course, the blood, apparently, like the water of the Thames, requiring a certain time for its purification, which it effects, perhaps, by throwing off the effete and superfluous matters, through the secretions and excretions." 10.

Believing, as we do, that the progress of knowledge tends more to reveal our weakness than increase our strength in therapeutics, we are not so sanguine as Dr. A. in the following aspiration:—"The time may come, and probably will come, when disorders, whether acute or chronic, which arise from specific occasions, (as the eruptive diseases,) will be directly removed by remedies acting through the blood, and thus the structure of the solids saved from that indirect derangement, so frequent under the existing and imperfect state of our art." We cannot follow Dr. Armstrong through a series of elementary observations on the state of the blood, and of the various secretions in disease. They are well worthy of attention. The following passage bears on a disputed point of pathology, and will be read with interest.

"The tubercle has been supposed by an able and ingenious author, Dr. Baron, to commence as a vesicle, and to be nothing more or less than an hydatid, if I rightly comprehend his meaning. But I have purposely noted a great variety of cases with much care, and found that the vesicular appearance of the tubercle is simply an accidental occurrence, dependent on the texture of the part in which it is placed. Thus, for example, in the origin, tubercles may have the vesicular appearance in the lungs; but these, if minutely examined, will be found to be the extremities of the bronchial tubes, or air cells, into which the peculiar deposit, constituting tubercle, often takes place. Frequently I have examined, under a strong light, tubercles on the serous membranes, and have never yet found them, strictly speaking, vesicles there, though the tubercular points, in many cases, have been extremely minute. It appears to me, that tubercles are secretions, from the ultimate ramifications of the arteries, called the exhalents; for I have preparations in which they seem to hang from the arterial capillaries like bunches of grapes from the shoot of a vine-branch.* Tubercle generally begins in a semi-opaque point, it becomes wholly opaque, and is then often of various sizes, but most frequently of a millet or mustard-seed. It does not, so far as I have tried, admit of injection at this or any other subsequent stage. It may remain latent for a long time in the primitive semi-opaque, or secondary wholly opaque condition; but it in general undergoes a third change, increasing in size, it may be, to that of a small pea, or several tubercles running together may form a much larger mass. Having been once progressive in the last mentioned mode, they generally undergo a fourth change, soften in the centre, and at last are resolved throughout their whole substance by a process apparently analogous to that of suppuration. Sometimes tubercles are enclosed, like a kernel, in a thin or dense capsule, particularly when they form in glands; and sometimes the cavities occasioned by their solution are surrounded by a false membrane of effused fibrine; but, in the lungs, the mere parenchyma often forms the walls or boundaries of a vomica or excavation. The number and the increase of the size of tubercles frequently create irritation in their vicinity, so that a consequent inflammation of the surrounding texture is not an uncommon circumstance, as may be daily witnessed in the dissection of bodies dead of phthisis pulmonalis. If, as above stated, tubercle be a secretion from the arterial terminations, it follows that it is but the effect of some preceding change in the solids or fluids, or in both these. Is it one of the products of inflammation, or is it a peculiar deposit, the immediate pathological causes of which are as yet unknown? Certainly, if the matter of tubercle be examined, it more sensibly resembles the fibrine or albumen of the blood than any other material. But it may be said that the fibrine or albumen of the blood, when effused, during disease, is an organizable substance, and that tubercle, not admitting of injection, is not apparently endowed with that property. It might, however, be answered, that effused fibrine or albumen is not always organizable, as we perceive in weak subjects affected by pericarditis and pleuritis, where loose lymph often exists abundantly, without any adhesions. Moreover, it might be urged, that our incapacity to inject tubercle is not a perfectly conclusive proof of its wants of organization, the vessels being, possibly, too minute to admit the artificial fluid, and the growth and solution of the tubercle contribute to show that either it, or a delicate membrane which so often invests it, may be endowed with a low degree of vitality, by which it increases till it reach a certain extent, and then passes into decomposition, like many other productions of nature. Against the idea, however, of tubercle being simply the effect of inflammation, many facts might be adduced, but one may suffice. In many instances, where tubercular points are scattered over the pleura or peritoneum, the serous membrane is transparent up to these points, and only becomes reddened or opaque when the tubercle has become progressive and enlarged, so as to act as a local irritant. Yet it seems probable, that tubercle is connected with an effusion of the fibrinous modification, though, according to my observations, that effusion is not necessarily connected with inflammation. Certainly, tubercle and inflammation are often co-existent, and so are the hydatid and tubercle, occasionally, but co-existence does not imply a direct dependence or relation. The tendency to tubercle, like that of other extraneous formations, is strikingly hereditary; and indeed the miliary tubercle, perhaps the germ, as Laennec supposes of all the rest, has been found in great numbers in the lungs of still-born children; but in every case of this nature which has fallen under my own observation, the mother was tubercular, or tabid, during the period of gestation. Nevertheless, it seems to me quite certain, that tubercles may be, and frequently are, generated, *de novo*, in the human body and in the lower animals. In almost every instance, when I have traced their development after birth, two circumstances have preceded, namely, a previous condition of debility, accompanied by some degree of attenuation; and, secondly, preternatural paleness of the skin, with co-existent signs of irritation on some portion of the internal mucous texture; and to these changes, whether induced by evacuations, mercury, protracted disorders, bad diet, anxiety, night watching, sedentary habits within doors, or any other enervating circumstance, the operation of a low or variable temperature has generally been superadded, as an exciting occasion to the prior state or predisposition. This doctrine, in a preventive view, is highly important, and it shall be confirmed in the subsequent pages by many facts and arguments, which will prove, not only that tubercle in general is the ultimate result of an antecedent change in the fluids and solids, but that its development may be prevented, in many cases, by preserving the general strength entire, and enabling the surface, through cool ablutions, and daily and much exercise in the open air, to sustain the shocks of our fluctuating climate; for tubercles are, in most instances, only produced in the internal organs of an ill-conditioned subject, as vermin are said to be formed upon the skin, when it is kept uncleanly, and when the body is shut out from the wholesome influence of light and air. The existence of tubercles in the lungs of still-born children cannot be held as a valid objection to the view here taken, since the fœtus was formed within a sickly mother, whose blood conveyed to it, perhaps, the materials of contamination, nay, its body and imperfect health might be regarded merely as integrant parts of the mother herself. Upon inquiry, it will be found that those persons who are made the most delicate by domestication and other debilitating causes, are the most prone to consumption, and the same assertion is applicable to the lower animals; whereas, those persons, such as gipsies, hawkers, and the like, who are continually in the open air, provided they be temperate, are the least liable to tubercles; and it would be easy to prove that the same doctrine is verified by a review of the habits of the lower animals, more especially of the sheep and horse." 18.

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* "To show tubercles in this state, it is requisite for the part to be macerated in simple water, exposed to the sun, without a cover, till putrefaction take place, and then it should be washed under a gentle stream, such as that from a cock in a barrel, daily, until the parenchyma of the lung be completely separated."

Dr. A. has never been able to trace scirrhus to the capillary exhalents, though he thinks it probable that it proceeds from those about the part affected. It is curious that scirrhus and tubercle very rarely co-exist in the same individual. Our author has seen but one instance of their cotemporary existence.

"If what many pathologists have termed the scirrhous liver of a confirmed drunkard be properly macerated, we shall often find that the interstitial deposition being washed away, the arteries, even the minute ones, are thickened and almost cartilaginous, seemingly from inflammation, appearing not very dissimilar to the cancelli of some bones, or to the blanched interlayings of net-work. The interstitial deposition sometimes appears to exist in patches, and sometimes pervades the whole liver; it is of considerable firmness, and commonly of a grayish-white colour; and though in a recent state it cannot be squeezed out, yet by long maceration first, and pressure between the fingers next, it can always be separated, so as to leave the true character of what has been designated by the term cancellated induration. In one case, a solid fibro-cartilaginous patch existed in the liver corresponding to the ordinary scirrhus, but a little above this patch the cancellated induration was apparent, and seemed to be lost in the other. Has scirrhus any connexion with chronic inflammation of the capillary or larger vessels of the affected part? Has it any connexion with the veins of the part, into the calibers of which the scirrhous matter is sometimes effused? More minute attention than has yet been paid to the subject would be requisite to authorize any one to give an unqualified answer to these questions." 20.

Simple induration is very common, and arises from the effusion and subsequent organization of lymph in the parenchyma of any organ, as, for instance, in hepatized lungs. Softening, on the other hand, is also a product of inflammation. Scirrhus and fungus encephaloides are frequently found co-existent, though they are evidently very different morbid growths. The latter is generally enveloped in a cyst, but is sometimes found dispersed among the different textures of the body. In respect to melanosis, Dr. A. considers it a "secretion sometimes occurring in textures otherwise apparently natural—sometimes in those chronically inflamed—and sometimes co-existent with either scirrhus or fungus." The author is evidently inclined, therefore, to view the disease as one of the fluids rather than of the solids.

"As far as my recollection serves me at present, every case of melanosis which I have witnessed was accompanied by more or less of chronic bronchitis; but it would require the care of other men to determine whether this conjunction be constant, or merely occasional; for no error has been so prejudicial in medical philosophy as universal conclusions, drawn from a limited number of particulars. It is clear, however, that bronchitis, simply of itself, is not sufficient to produce melanosis, numerous cases of the former occurring, in which, on examination after death, no trace of the latter is any where discernible. But, on the other hand, is it at all probable, that bronchitis may be *one* of the precursory or concurring causes of melanosis? Is it possible that, by changing the whole mass of blood into a more venous character, bronchitis may favour the dark and peculiar secretion, respecting the composition of which chemists have differed?" 25.

The first fasciculus of the work before us is dedicated to the STOMACH, the principal morbid affections of which are classed under the heads—"increased determination; inflammation; scirrhus; and fungus encephaloides." It is remarkable that Dr. A. should not have included NEURALGIA of the stomach among its principal affections, since, if the frequency of its occurrence, and the distress occasioned by it be of any importance, the disease ought to have occupied the first rank, instead of being put out of the ranks almost entirely.*

In respect to inflammatory affections of the stomach, Dr. A. appears desirous of steering a middle course between the continental and British pathologists.

"Some pathologists on the continent seem to think, that inflammation of the stomach very frequently occurs, especially in the mucous texture; whilst some in this country conceive, that, though this viscus be greatly abused by our artificial and luxurious habits, it is nevertheless, but seldom the seat of actual inflammation. The truth appears to lie between the extremes of these opinions; for while I am ready to admit, that increased determination has often been mistaken for inflammation of the mucous texture of the stomach, yet I am equally certain, that inflammation is not so very uncommon a circumstance, oftener, indeed, assuming the chronic than the acute character. Increased determination is not accompanied by the combined symptoms and progressive effects of inflammation during life; and though, after death, the mucous texture of the stomach be found red by a preternatural injection of the capillary vessels, yet none of the genuine products of inflammation are present, such as effusion, softening, thickening, or so forth, and it may thus be easily discriminated from the latter.

"When the body is examined shortly after death, the vestiges of acute and chronic inflammation of the serous and mucous membrane of the stomach are generally very distinct. In acute inflammation, the capillary vessels, but more particularly the venous ones, are much injected by red blood; and there are, besides, some of the palpable products of inflammation connected with effusion. These circumstances, being conjoined, are indisputable evidences that inflammation had existed. The injection of the serous membrane is most frequently arborescent, the minute arteries and veins shooting, as it were, like the branches of a tree, in different directions, or, what may perhaps be a more apt comparison, winding across, like the vessels seen in a leaf when held between the eye and the light. Sometimes the redness, in part, is irregularly dotted, smaller and larger points appearing here and there, as if partial exudations of blood had taken place; yet, if these points be accurately examined, they will be mostly found nothing but engorged capillaries, in all likelihood the exhalents themselves, which, being still more extremely loaded, probably admit of that actual exudation that does occasionally occur. The serous membrane over the site of the inflammation loses its natural transparency and becomes more or less opaque. Another circumstance remarkably characterizes acute inflammation of the serous membrane, namely, that it is much more easily separable than natural. Indeed, it may be generally stripped off by the fingers, just as the rind is peeled from a ripe orange. Fibrine, pus, or some effusion of an intermediate character, is usually seen on its free surface, while serum is found in the vicinity, commonly discoloured by an admixture of one of the forementioned products. In most of such instances, a large quantity of gas is generated within the stomach, evinced by the extreme distention of that organ even during life.

"One of the most striking differences between acute and chronic inflammation of the serous membrane, but more particularly that of the stomach and bowels, is the greater injection of the larger as well as small branches of the veins in the chronic, by which a darker colour is given to the part. Having seen this condition of the veins an almost constant attendant, I have inferrred that these vessels are more intimately concerned in the phenomena of inflammation, especially when chronic, than has been allowed in our reasonings on the subject. Not only is the opacity more evident in the chronic inflammation of this texture, but the thickening more considerable and conspicuous. The late most able and excellent Laennec supposed that serous membranes were not really thickened by inflammation, but that the effusion of fibrine becoming organized on their free surfaces gave rise to the deception. Though such an apparent thickening be not uncommon, nevertheless it is not always thus produced. Bichat supposed that the serous membrane was composed of one layer; but if we macerate it for about ten or twelve weeks, in nearly equal portions of vinegar and water, we may divide it, by nice management, into two or even more laminæ, as shown by specimens in my possession. The laminæ are knit together, by cellular membrane, into which the effusion of fibrine sometimes takes place so copiously, that the substance of the serous membrane is really thickened. Where fibrine has been interstitially poured out in this way, an increase of density is the necessary consequence; but when a more albuminous, gelatinous, or serous fluid has been principally effused, which does not admit of subsequent organization, the serous membrane is often pulpy, as if from maceration, an appearance most frequent in lax habits. Softening is a common, but not a constant attendant of chronic inflammation, as may be perceived, where adhesions exist between the serous membrane of the stomach and that of the liver, or between one portion of this texture and another covering the coils of the intestines. Ulceration of the serous membrane of the stomach is a rare occurrence from common inflammation, at least, I have only met with it occasionally; in the one case, occurring originally in that structure; in the other, reaching it through an extension of disease, from the mucous lining of that viscus." 29.

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* There are a few lines respecting the gastric neuralgia of young women who starve themselves in order to get lean, but very little or nothing on the great class of neuralgiæ connected with indigestion.

When the mucous membrane, on the other hand, is acutely inflamed, the remaining redness is intense, and generally diffused as if by a brush over the greater portion of its surface —sometimes circumscribed in broad stripes or patches gradually shaded or abruptly breaking off, with apparently sound intervening portions.

"At first sight, the acute inflammation of this texture has a close resemblance to painted velvet, it appears so red and raised; but on a closer inspection, the redness will be found to be partly of the arborescent, and partly of the dotted form. The combinations can be distinctly seen, if the inflamed portion of mucous membrane be spread upon the clean pane of a window, the redness then having at once a ramified and freckled appearance. Thickening, puffiness, softening, and easy separation, usually mark inflammation of this membrane;* but they are more manifest in that modification of inflammation which might be justly called sub-acute, and which stands between the acute and chronic, being less urgent, and more protracted than the former, though of much shorter duration than the latter. These changes, too, accompany chronic inflammation of the mucous membrane, which then generally has a gelatinous appearance, blended with an irregularly liny, and almost freckled state, the first, from the partial softening of that texture, and the second, from the ramification of the minute subjacent vessels; while, at the same time, the mucous follicles appear either prominent, like papillæ, or are actually ulcerated, and the veins in the serous membrane are injected and enlarged. The existence of these follicles makes a considerable difference in the pathology of inflammation of the mucous membrane compared to that of the serous, as will be amply elucidated in the sequel." 30.

It is not the least of the anomalies presented in the science of medicine, to find the most opposite effects resulting from the same cause. Softening is equally the product of inflammation as induration. Phlogosis of the stomach will often leave a milky whiteness as well as an intense redness—thickening and attenuation of the coats depend on the same cause! These anomalies, in many instances at least, appear to our author to be connected with the state of the arteries or of the veins of the tissue, according as one or other set of vessels is principally concerned in the phlogistic process. This seems rather inclining to the hypothetical.

SOME NOTICE OF THE PLATES.

The first plate is that of the stomach, representing the red suffusion and arborescent injection of acute inflammation of the serous membrane, with a deposition of fibrine on its surface, and some between its laminæ. It is one of the best plates in the work.

The second plate was copied from a stomach, in which the inflammation commenced under a sub-acute form, and terminated in three weeks. The mucous texture was found highly injected, pulpy, and thick, with some ecchymosed spots.

The third plate shows attenuation, with solution of some of the textures of the stomach, from inflammation. The fourth is perforation of the organ in a child; and the fifth shows the thickened and pulpy state of the stomach from muco-gastritis and sero-gastritis. All these are done on stone, and the artists are entitled to great praise. Mr. Cocks, who made the drawings, is a gentleman of great merit. The colouring is much too high in most of the plates—a common fault in all pathological representations.

SYMPTOMS.

We must now proceed to give some account of our author's symptomatology, which is laconic, but evidently copied from nature.

1. *Acute Inflammation of the Serous Membrane of the Stomach.*—The following is Dr. A.'s symptomatology of this important phlogosis.

"If the serous membrane be alone acutely inflamed, there is an urgent pain in the region of the stomach, increased considerably by pressure there, and even by a deep inspiration. The breathing is hurried and anxious, the skin hot, the pulse very quick, and remarkably small, but for some time it will be found harder or more incompressible than in health, only becoming really weak and soft towards the close. The tongue is covered by a whitish fur, and the stomach is very flatulent and irritable throughout, nausea, retching or vomiting being present, especially when any food or medicine is given.

"There are two distinct stages in all acute serous inflammations—one of excitement, and another of collapse. In the stage of excitement the heat of the skin is higher than natural, the pulse, however small, more resisting than natural, and the respiration, though rapid, is not embarrassed; whereas, in the stage of collapse, the heat falls first on the extremities, and then on the trunk, the pulse grows soft and weak, and generally quicker than before, while the respiration is carried on feebly. These two stages are usually well marked in acute inflammation of the serous membrane of the stomach, the vomiting becoming more urgent, the skin damp as well as cold, and the face sunk in the last stage, or that of collapse." 41.

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* "By long maceration, the mucous texture of the bowels may be shown to consist of three laminæ, which almost appear like cobwebs, and which are seemingly united by cellular texture, resembling so much fine intervening lace-work. It is this cellular structure which is the main seat, in the different organs of the body, of most of our diseases."

2. *Subacute Sero-Gastritis.*—Although this differs only in degree from the former, pathologically speaking—yet this difference in degree is of considerable importance, and justifies the distinction. In this grade the fever is lower, and the local disturbance of the part affected is less—the progress is slower, in the proportion of two or three weeks to a few days. Vomiting is often absent in the subacute form, there being more frequently only a loathing of food, with occasional nausea, till towards the conclusion, when vomiting supervenes.

Chronic Sero-Gastritis.—"In chronic inflammation of the serous membrane of the stomach, fever is either wholly absent, or, if present, it has a slow consuming character. It is not, so far as my dissections have gone, a common circumstance to find chronic inflammation confined to the serous membrane of the stomach alone, it generally being complicated with chronic inflammation of the serous membrane of the bowels, or of the liver. Chronic inflammation of the serous membrane of the stomach is at all times obscurely denoted, but the forementioned conjunction tends to make the diagnosis more difficult. This form of inflammation, however, may mostly be detected, by the symptoms having a permanent seat and character, and by the effects of the disorder being increasingly marked on the frame at large. There is more or less pain in the epigastric region, aggravated by moderate pressure, and accompanied by a sense of distention and confinement, particularly after any thing like a full meal. There is constant uneasiness about the stomach. It may be at times obscure, but is very liable to be increased by whatever offends that organ, which is then always more flatulent and irritable than natural. The flesh wastes, the skin acquires a sickly hue, the mouth is dry or clammy, the tongue is covered with a whitish fur in the centre, and is not only pale about the tip and edges, but often appears as if it were broader than before the attack.

"Pathological anatomy points out the propriety of discriminating serous from mucous inflammation, and we might, therefore, call the above described modifications, sero-gastritis, and when that condition affects the mucous texture, we might call it muco-gastritis, the symptoms of which are next to be enumerated."

4. *Acute and Subacute Muco-Gastritis.*—In this affection, the pain is of a more burning kind than in the acute sero-gastritis, and the desire for cold drink more insatiate. The pulse is softer—the fever less ardent—"the tongue is pale at the point and sides in acute *sero-gastritis*—but in muco-gastritis the tongue is vividly red at the point and some way round the margins, nay, often thus coloured over a considerable portion of its surface."

"These are the symptoms *proper* to each of the above varieties of acute inflammation, a concentration of heat about the epigastrium, irritability of the stomach, and anxious respiration being *common* to both. The same remarks are applicable to sub-acute sero-gastritis and sub-acute muco-gastritis when contrasted; but it must be constantly remembered, that there is less fever and less local disturbance in the sub-acute than in the acute inflammation, while the former is of longer duration than the latter, these being the three essential points in which they differ from each other." 43.

5. *Chronic Muco-Gastritis.* This is a far more common disease than the acute or subacute forms.

"Chronic muco-gastritis is attended, generally, by a vermilion tint of the tongue at the tip and edges, while the papillæ, for the most part, are red, and also raised, somewhat like the points upon a strawberry.* But the most certain sign is pain or uneasiness uniformly after meals, which increases as the disorder goes on, and which is at length accompanied by general wasting, and an acceleration of the pulse, with pallidity of the skin and slow fever. The temper, too, is more easily ruffled than natural, or the spirits depressed. If a doubt exist as to the nature of the disorder, it may generally be removed by the exhibition of a diffusible stimulus, which always increases the uneasiness in the stomach, if chronic muco-gastritis be present, so certainly does the system, in this case, resist or indicate the impropriety of the stimulant treatment. Now that this treatment is so prevalent, from the remains of a vague and erroneous philosophy respecting dyspepsia, the young practitioner would do well to recollect the test already named, which may be safely relied upon in almost all dubious cases; and, on the other hand, as some modern pathologists press the doctrine of inflammation beyond its legitimate bearing, it is equally needful to be guarded on that point, lest evacuations should be used where stimulants are demanded.

"In fact, there is a painful affection of the stomach, which is not inflammatory, and which is relieved by stimulants. It mostly attacks those who have suffered much from anxiety, or who have been considerably fatigued or exhausted. But it may arise in robust persons, from any article of diet very indigestible, or from a complicated meal. In this affection the pain is usually severe, without the least degree of fever, and it is accompanied by feelings of distention, weight, and fermentation. It is in general soon allayed by drinking hot water, or by the exhibition of laudanum, but the most rapidly and effectually by that of pure brandy. This kind of pain has long been distinguished in popular language by the term spasm of the stomach, or of windy colic when it exists in the bowels, and the value of alcohol is well known to the vulgar in such cases." 44.

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* "Chronic muco-gastritis and chronic bronchitis are often conjoined, and then the papillæ of the tongue have a purplish cast."

Our author observes that organic diseases of the heart are not unfrequently associated with chronic inflammation of the mucous coat of the stomach, especially towards their termination. In such instances, preternatural sensibility of the stomach, with nausea, retching, and vomiting, together with the crimson tongue, mark the nature of the ventricular disorder.

"If ulceration exist on the mucous surface of the stomach to any extent, patches or points of pus may now and then be discovered in the matter vomited, and these are mostly mixed with a glairy tough mucus, or streaked with blood. In the advanced stage of chronic muco-gastritis, patients sometimes vomit considerably more fluid than had been drunk, and this is most liable to happen in those cases where the inner coat of the stomach is blanched and soft, which occasionally occurs in true inflammatory cases." 45.

In respect to dissolution and perforation of the stomach, Dr. A. places little or no belief in the solvent powers of the gastric juice. In all the instances of perforation which he has seen, "the most unequivocal signs of disease existed before death."

"In those cases which occurred in adults, a sudden and severe pain arose, with vomiting, as if the patient had taken an acrid poison, and the fatal stage of sinking took place within forty-eight hours from the attack; but the infant, whose stomach is represented in the fourth plate of the first fasciculus, lived about seven days after the violent seizure, having been previously weaned, and weakly, from the history of its mother. The dissolution of the stomach was announced by sudden and severe fits of crying, attended by a distressing sickness, and retraction of the lower limbs towards the abdomen. The epigastrium was hot—the integuments of the belly hard—the pulse quick—and the respiration anxious. Diarrhœa supervened—the face gradually assumed the hippocratic character, and the extremities became cold. Such were the leading symptoms in the other cases which happened in my practice after weaning, all having been more protracted than those of the adults. It is not my intention to deny, that the gastric juice may dissolve the stomach now and then after death; but, in the preceding cases, disease certainly existed in that organ, and was apparently the cause of the dissolution. If it be asked, what was the nature of that disease, I answer, that I do not know. The mucous membrane is sometimes attenuated and even destroyed by inflammation, but occasionally similar changes take place from a process, seemingly, not inflammatory; and, as in the fore-mentioned cases of dissolution, the usual traces of ordinary inflammation were not present, it is not logical to refer the effect to that cause. It may be, however, that some change does take place in the mucous texture, or in the blood, by which the secretion is so altered as to act destructively upon the stomach during life; but, as there is no end to conjecture where observations are too imperfect for legitimate deductions, I must leave this point of pathology to the consideration of succeeding inquirers." 47.

On perforation from chronic ulceration of the stomach we need not dwell. The symptoms of sudden peritonitis generally supervene, and death soon closes the scene. We have now finished the first fasciculus, and laid before our readers a very ample analysis and numerous extracts, by which they can judge for themselves. Did we indulge in rigid censure or indiscriminate praise we might be suspected, and justly so, of belonging to one of the parties described in the first page of this paper.

Medical and Philosophical Intelligence.

Success of Cold Affusions in Hysteria. By Dr. Levacher.—The patient, æt. 15, after a paroxysm of anger, was attacked with all the symptoms characterizing hysteria in its most violent form, which continued with undiminished severity for the space of four days, notwithstanding the employment of leeches, sinapisms, the warm bath, enemata, and a variety of antispasmodics. Dr. Levacher ultimately directed cold well water to be poured upon the head from the height of two feet and a half, and permitted to run down over the loins. This affusion was followed by an immediate mitigation of all the symptoms. She rested well during the night, and the next morning her pulse was regular, and the hypogastrium no longer painful. This favourable condition, however, was interrupted towards noon by a fright which she received from a dream that robbers were breaking into her room; she awoke in great terror, and a repetition of the convulsions was the consequence. Recourse was again had to the cold affusions, and with the same salutary effects as before. The day following, she was still better, but the headach continuing, a bladder filled with iced water was applied to the head, and bottles of warm water to the feet, which succeeded in removing it. Two days later she had a return of the convulsions, but they speedily yielded to the foregoing plan, and did not again recur.—*Journal des Progres, &c.*

Mental Alienation caused by the presence of a Mole in the Uterus. By M. Girot de Dinan.—Madam B———, had been distressed for several months by some indefinable sensations, which continued to increase, and progressively assumed a more determinate character.

Great disquietude, an immoderate attachment to her husband, frequent and causeless fits of weeping, and an insupportable jealousy, which induced her to sacrifice an honourable and lucrative situation to the desire which she felt that her husband should be constantly near her, characterized this first period.

To this exaltation of sentiment, a marked indifference towards the objects of her tenderest affections gradually succeeded. Very soon her intellectual faculties became impaired, incoherent discourse, injurious and unreasonable complaints, unjust reproaches, a remarkable penchant to a superstitious devotion, &c. &c. were the symptoms constituting the second period of this mental derangement.

During the period last mentioned, uterine hemorrhagies supervened at periods more or less remote. Finally, after some slight colic pains, she discharged from the uterus, without effort or pain, a pyriform body, two inches in circumference, which was ascertained to be a mole of a fleshy character. Rest, rigid diet, and iced lemonade were directed; she speedily recovered, and from this period enjoyed the best possible health.

On the Transformation of the tissue of the Heart into fatty matter, having the form known by the name of cœur villeux, (cor pelosum. By Dr. Simeons.—The subject of the case was a girl, and derived the germ of disease from her father, who had laboured under constitutional syphilis. After having passed the earlier period of adolescence without any serious accident, she had, in her 19th year, a considerable scrofulous swelling of the lymphatic ganglions of the neck and of the upper lip, followed by symptoms of arthritic and rheumatic affections. Her sleep was disturbed, accompanied by dreams, and slight exertions gave rise to great fatigue; she had prickings in the left side of the thorax; cough, frequently accompanied with sanguinolent expectoration; debility, which sometimes occasioned syncope; the pulse though frequent was always regular; decubitus on the side occasioned a peculiar malaise; she was often troubled with a sensation of internal heat, accompanied with external cold; at a later period her lips and fingers had a bluish tinge; the pulsations of the heart were so feeble that they could not be felt through the parietes of the thorax; the menses were suppressed. Eventually cold sweats, a comatose condition, &c. supervened, and she died, after having been ten months under medical treatment.

Autopsis.—The left lung was found adherent in many places to the pleura costalis and to the pericardium. The internal surface of the latter was garnished with filaments from two to three lines in length, solid, of a yellowish white colour, and as if imbricated upon each other; some of them were attached by the other extremity to the heart. The exterior of this organ was covered with filaments of the same character, having their origin in a fatty matter of a grayish yellow colour, which formed two-thirds of the substance of the heart. The other viscera presented nothing unusual; the spleen was rather larger than usual.

Dr. Simeons terminates his memoir, with an epitome of similar cases recorded by different authors, and the opinions which have been entertained as to the cause of this alteration. In the case above detailed, the filaments were not the consequence of an inflammatory exudation, as is generally the case, but of the transformation of the tissue of the heart into fatty matter. An analogous alteration is sometimes met with in the muscles.—*Bull. des Sciences Medicales.*

On the Incision of the Posterior Commissure of the Vulva, as a means of preventing Ruptures of the Perineum. By Dr. Weise.—Cases do occasionally occur in which rupture of the perineum is inevitable, however carefully this part may be supported by the hand alone. This accident must happen where the vulva is not sufficiently large to permit the passage of the head, owing to the perineum encroaching too much upon this opening. Vapour baths, warm fomentations, unctuous applications, &c. are here unavailing. Delivery cannot take place, notwithstanding the energetic contraction of the uterus. The perineum becomes excessively distended, thinned, and pushed forward like a cowl before the head of the fœtus. Under such circumstances, Michaëlis, a German surgeon, has proposed an incision through the posterior commissure of the vulva, and has even performed the operation with success. Mursinna, however, without any personal experience, rejected the operation with disdain, and it was entirely forgotten, when Dr. Weise revived it in 1827. He relates two cases in which it was attended with complete success. A probe-pointed bistoury was used, and the incision was not extended at farthest above an inch in length; it was not enlarged by any ulterior rupture; the fœtus was expelled without difficulty by the first contraction of the uterus, and in both cases the parts healed readily, leaving small cicatrices. In the second case, the cure was protracted for some time, by suppuration from the vagina, the parietes of which had ulcerated from the protracted pressure made upon them by the head of the child; the same thing occurred also in the other case, and Dr. Weise infers, that where it is evident that delivery cannot take place without rupture of the perineum, the operation should not be deferred too long.

An inaugural dissertation on this subject, has been presented to the University of Berlin, with the following title; *De incisione commissuræ posterioris genitalium ad evitandis inter partum perinæi rupturas.* Auct. A. J. Leinweber. Beroline.—*Journal für Geburtshülfe.*

*Termination of the Retina in the Human Eye.**—It has very often been discussed, where the retina terminates anteriorly, and, as far as we know, the opinions of anatomists as to this point are not yet settled. Dr. Schneider, of the University of Munich, has lately, by very accurate researches, endeavoured to determine this question. According to him, the following are the different opinions on the subject:—

1. The retina reaches no further than the middle of the vitreous humour.—Fallopius and Vesalius.
2. It terminates at the exterior margin of the processus ciliares.—Meckel, Soemmering, Wrisberg, Zinn, Rudolphi, Velpeau, Home, Jacob, Paullucci.
3. It extends to the circumference of the lens, where it is inserted in the capsule.—Ferrein, Haller, Lieutaud, Monro, Winslow.
4. It is continued into the processus ciliares.
5. Having reached the external margin of the zone of Zinn, it forms a defined edge, from which it extends, as a very delicate membrane, to the margin of the lens.—Baerens, Walter, Doellinger, Hesselbach.

According to M. Schneider, it proceeds from the external margin of the corpus ciliare, where it was generally supposed to terminate, to the lens on the greatest circumference of which it ends, by a free margin, and without any firm attachment to the capsule. This continuation of the retina lies between the zone of Zinn and the corpus ciliare; it appears as a very delicate, thin, medullary membrane, somewhat thickened at its internal free margin. It is covered by the pigmentum nigrum, which is most copious on the external portion, but gradually decreases anteriorly and interiorly, so that the free margin of the retina is not covered by it. At the distance of about one-eighteenth of an inch from the circumference of the lens, the retina increases in thickness, is very white, and of a folded structure, in which the separate folds, from 70 to 75 in number, are placed at regular intervals. The internal margin of this folded ring adheres to the capsule. Under the microscope, the termination of these folds anteriorly appear as more or less coniform bodies placed in different directions, and very similar to the nervous papillæ of the tongue.

Cure of White Swelling by Frictions of Iodine. By Dr. Lugol.—The use of iodine in scrofulous tumours is strongly recommended by the most eminent French surgeons. M. Breschet, in his lectures, speaks of it in the highest terms. The same treatment is pursued with advantage at the Hôpital St. Louis, from the records of which a recent cure of white swelling and tumour of the jaw may be cited as a proof of its efficacy.

The patient had white swelling, with fistulous ulcers, on the knee: the leg was bent on the thigh, and utterly useless. He had also a large tubercular tumour on the right side of the face, which seems to have its origin over the maxillary joint. The swelling was such that the man could scarcely open his mouth, and the flat edge of a penny-piece was the largest substance he could introduce between his teeth. These tumours have entirely disappeared under the use of iodine frictions.—*Journ. de Hôpitaux.*

Treatment of Cholera.—The London Medical Gazette for November 6th, contains the following extract of a letter from India.

"Our old enemy the cholera has not committed its accustomed deadly ravages this year, and, it is to be hoped, is wearing itself out. I have not had occasion to resort to *my recipe* for these three months past, which I certainly have found both an antidote and cure. You may probably know, or have heard of it. It is the *Kyapoota* (*Cajepooa*) oil: at all events, you possibly remember the virtues formerly ascribed to it for rheumatic affections, though I believe, not then administered internally. I have, however, used it with great success in cases of cholera: 10 to 15 drops to children, and 30 to 50 to adults, merely swallowed in a wine-glass of warm water. Some of the faculty called it a *quack nostrum*, who, I have reason to believe, have since used it with benefit. I accidentally introduced it about two years ago, but take no merit beyond the successful application of it, whilst the population were dying by hundreds about me; having discovered a recital of its efficacy in an old Bengal paper, which induced me to try the experiment, and some of the recoveries were remarkable from the last stage of the disorder, and even after the usual applications had failed from the Materia Medica."

Erysipelas Phlegmonodes.—Several new methods of treating erysipelas have recently been proposed by the French surgeons. M. Dupuytren has often seen an extraordinary effect from blisters; and M. Larrey knows, in this disease also, as in many others, no remedy superior to the application of moxa. M. Velpeau, of the Hospice de Perfectionnement, has frequently effected a speedy cure by continual pressure, especially in such individuals where general and local blood-letting is inadmissible.

A female, 65 years old, and of a very unhealthy constitution, was, on the 25th of August, admitted into the Hospice; the left leg was swelled, hot, very painful, and of a brown-red colour; on pressure, some sub-cutaneous fluctuation was perceptible, the knee was slightly enlarged, and the synovial capsule somewhat distended by fluid. The disease of the leg extended rapidly to the thigh, which, within a short time, was affected in its whole length, and in such a manner as to threaten gangrene. The constitution of the patient not admitting of bleeding, M. Velpeau ordered compression of the whole limb; the bandage was made very tight, and re-applied as soon as it began to loosen. At first the pain was considerably increased, but it soon abated, and at last entirely ceased; so that, within a few days, the patient was discharged, cured.

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* Das Ende der Nervenhaut im menschl. Auge. Von Dr. Schneider, Prosect. an der Univers. zu Münichen.

About the same time an old man was admitted at the Hospice, with erysipelas phlegmonodes of both legs, which were much swelled, very painful, and discoloured. The patient, being of a very plethoric habit, was twice bled, but the bleeding, having no influence on the local disease, pressure was resorted to, which proved so effectual, that the cure was completed within six days.—*La Clinique.*

Thumb torn off at the first Phalanx. By M. Chapron.—This accident occurred in consequence of the thumb becoming entangled in the machinery of a steam engine; the skin was as neatly divided as if it had been done with a scalpel; there was no hemorrhage, and very little pain. The circumstance imparting an interest to the case was, that the tendons of the flexor and extensor muscles attached to the last phalanx of the thumb were entirely torn off with this bone. These tendons, furnished with short muscular fibres for about a fourth part of their extent, were eight and nine inches in length, so that the rupture had taken place in the superior part of the forearm, or, to speak more accurately, through the fleshy fibres at their insertion into the tendon. The usual antiphlogistic means were sedulously put in force for some days, and the patient recovered without a single unpleasant symptom.—*Journal des Progres, &c.*

Radical Cure of a Hydrocele by the introduction of a Needle into the Tunica Vaginalis.—The patient had for several years been incommoded by a very large hydrocele, which had been repeatedly punctured and injected, but without success. The fluid was constantly reproduced, and the patient was desirous of undergoing an operation which would effect a radical cure. The following plan was adopted by Dr. Moro. The patient being seated, a trocar was introduced at the usual place of puncture; the perforator was then withdrawn, leaving the canula, and through the latter a long needle, like those used in acupuncturation, was introduced from below upwards in the direction of the abdominal ring, and near the spermatic cord, so as to pierce the integuments on the side of the penis. After the water had been entirely discharged, the canula was withdrawn, and the two extremities of the needle approximated and twisted together. A slight degree of pain and heat in the groin, which was propagated towards the kidneys, followed the operation, but disappeared in the space of twenty-four hours; six days afterwards, the scrotum had regained its natural form and dimensions; two red points were seen where the integuments had been perforated by the needle. The latter was divided by the cutting pincers, and removed without the slightest difficulty. A year and a half have now elapsed, and there has been no return of the disease.—*Annali Univ. di Medicina.*

Delivery through the Perineum. By M. Marter, surgeon.—The subject of this case had the perineum very large, and the vulva situated more anteriorly than usual. During parturition, a violent contraction of the uterus occasioned a crucial rupture of the perineum, of such extent, that the fœtus and placenta were protruded through it; the posterior commissure of the vulva and the sphincter ani remained uninjured. The opening gradually healed, and three years afterwards she was delivered with great facility by the natural passages.—*Journal für Geburtshüfle.*

Tetanus caused by Intoxication. By Dr. Ant. de Simone.—The patient, a man of middle age and strong constitution, was admitted into the Ospedale della Pace, with tetanic symptoms of the most violent character. The disease began eight days before, and the physician under whose charge he had been, attributing the cause to *debility*, had unsuccessfully employed opium and other *stimulating* remedies. M. Lanza and the reporter of the case, who acted as resident physician, began the treatment by a cathartic of rhubarb and calomel, which produced a salutary effect; the warm bath was directed, but without much benefit. Symptoms of thoracic congestion manifesting themselves, he was twice bled copiously from the arm, and a large blister applied to the chest the following morning; at the same time he took a mixture composed of three grains of tartarized antimony, and half an ounce of nitrate of potash, dissolved in a pound of elder flower water. The symptoms, which had appeared to be somewhat mitigated, underwent an exacerbation in the evening. Twelve ounces of blood were drawn from the foot, and the solution repeated. On the fifth day of his admission, he took a dose of castor oil, and five grains of the extract of belladonna in divided doses. The tetanic symptoms sensibly diminished, but the disease of the chest still continued; the same plan was pursued, except that the belladonna was given in the evening. The symptoms of tetanus progressively diminished, but those of thoracic congestion augmented in a corresponding ratio. He was bled copiously on the evening of the ninth day, and on the tenth, the same prescription, with the tartarized antimony, was repeated. Well founded hopes were entertained of effecting a cure of the tetanus, but suffocated by a new convulsion, the patient was carried off in the evening of the day last mentioned; with symptoms characterizing all the congestive diseases of the lungs.

The remainder of the article contains the results of the examination of the death, which justify the treatment.—*Bull. des Sciences Med. from the Giorn. Med. Napolit.*

Extroversion of the Bladder.—A child, five months old, of the usual size and enjoying good health, presented the following peculiarities. The umbilicus, instead of occupying its natural situation, was placed immediately above the os pubis; directly beneath it was a tumour of the size of a small hen's egg, presenting a fungous aspect, endued with an exquisite degree of sensibility, and bleeding on the slightest touch. The tumour reposed upon a fold formed by the skin of the scrotum, which was distended on each side by the testicles, and by an inguinal hernia. Between the fold and the tumour was the penis, apparently compressed by these two parts, and reduced to a rudimentary state; it did not give passage to the urine. It was at first supposed that this fluid, which flowed constantly from the surface of the tumour, was brought thither, by a prolongation of the urachus opening upon this part. But upon examination with a microscope, it was observed that the urine issued guttatim from two orifices, situated upon the fungous tubercle, and looking towards a kind of cleft or intersection, from which it flowed constantly; and the malformation was recognised to be of the nature of those which the celebrated professor Chaussier has designated under the name of *extrophy* or *extroversion* of the bladder, which he states to be formed by an arrest of the nutrition of the anterior parietes of the abdomen in this region, and likewise of the bladder being exposed and projecting externally, the mucous membrane of the posterior surface of this organ, as also the orifices of the ureters, which permit the urine to escape continually.—*Travaux de l'Academie de Medécine de Bordeaux.*

Spontaneous Detachment of the Conoidal Papillæ of the Tongue. By M. Pierquin.—The following cases occurred in the persons of two domestics in the service of a lady who died of cancer of the tongue, which had been permitted to advance so far, as to preclude all operation. The subject of the first case, æt. 60, was of a bilioso-sanguineous temperament and robust constitution, had lived in the house for the space of thirty years, and both herself and companion had been more or less directly engaged in attendance upon their mistress. While arranging the bed, &c. she stated that she had repeatedly been unpleasantly affected by an *aura*, which in general was exhaled from all the articles employed by the patient. On the morning of the 12th June, she came to Dr. P. in great alarm, fearing that she had contracted the same disease of which her mistress had just died. The Dr. endeavoured to convince her of the groundless nature of her fears, and the better to do so, refused to examine her tongue. The next day she returned, complaining of an itching and a peculiar heat in two different points, towards the side and base of the tongue; on examination, two small funnel-shaped excoriations were seen at a little distance from each other; the largest three lines in diameter, and the other rather less; their margins presented no signs of inflammation or of any mechanical lesion; the bases were also perfectly clean, and like the margins, appeared as if they had been thus organized. The light rose hue of the excavations was in strong contrast with the thick yellow coating covering every other part of the tongue. An emetic was directed and repeated, and astringent and sedative gargles effected a cure in a few days,—an oblong longitudinal depression, formed at the expense of the surrounding parts, remained in the place of the excavation.

This circumstance, observes M. Pierquin, had scattered terror through the house, and in a few days after the first application of her comrade, he received a visit from the other servant above mentioned. She showed him *a piece of very solid flesh, which had fallen from her tongue, and which she had found in her mouth.* She presented, moreover, the same phenomena that were observed in the preceding case. Dr. P. compared the form of the fleshy substance with the cavity left by its detachment on the side, and towards the base of the tongue, and it was then, for the first time, that he recognised the true nature of the complaint,—a spontaneous separation of the conoidal papillæ of the tongue. The same treatment was employed as in the preceding case, and she was entirely cured in the course of six or seven days.—*Journal des Progres, &c.*

Luxation of the Astragalus.—Jean Chapin, while working on the canal at Bourgogne, was buried beneath a quantity of earth which fell upon him, and on being extricated from his perilous situation, a wound was observed on his leg, from four to five inches in length and three in breadth, between the edges of which the astragalus presented; this bone had made a rotatory motion, and had abandoned all its articulatory relations with the surrounding parts; the articulating surface with the scaphoides was broken; the tibialis anticus was ruptured where it becomes tendinous, and the separated tendon, seven or eight inches long, was hanging out of the wound. The patient was carried to the hospital, and M. Follot resolved to attempt to save the limb by the extraction of the astragalus. This was easily effected by enlarging the wound; the ruptured tendon was also removed; the edges of the wound were now brought together, proper dressings applied, and the limb placed in an immoveable position. Profuse suppuration, with sloughing followed, and an abscess formed on the internal part of the leg, which was opened and discharged a great quantity of pus; a week or two afterwards, another abscess made its appearance on the anterior part of the limb where the tibialis anticus had been ruptured. From this time no unpleasant symptom occurred, and the patient recovered with an anchylosed joint.—*Journal Générale de Medecine.*

Gastrotomy.—A woman, æt. 24, endeavouring to excite vomiting by means of a small fork introduced down her throat, suffered it to escape from her hands and descend into the stomach. It remained in that viscus several months, without occasioning much inconvenience, but ultimately dangerous symptoms made their appearance and threatened the life of the patient. After a consultation with professors Delpech and Fages, Dr. Caroche performed the operation of gastrotomy: the fork was extracted without difficulty, and the wound healed at the expiration of twenty days.—*Travaux de l'Académie royale de Medecine de Bordeaux.*

Preservation of Anatomical Preparations.—In a late number of the *London Medical Gazette*, Mr. Gaskoin proposes the following method for the preservation of anatomical preparations.

Having removed the diseased part from the body, it should be as little handled or dissected as possible, especially when the effects of inflammation, congestion, &c. are to be preserved, as the blood may be pressed from, or disturbed in, the minute vessels. Let the blood which may have escaped from cut vessels, be gently washed off from the surface by a solution of the *muriate of ammonia*, or be absorbed by a soft sponge, lightly applied. The part should then be wrapped with care in old linen, and be so immersed in *one part of a saturated solution of the muriate of ammonia*, (sal-ammonia of commerce,) *and two of rectified spirit of wine.* After two or three days the linen may be removed, and the part restored to the fluid.

Should the preparation be large, or, from the nature of the disease, contain a large quantity of aqueous fluid, then an additional portion of the muriate of ammonia in powder should be added, to meet the excess of aqueous menstruum.

The time necessary for maceration will mainly depend upon the size of the part to be preserved; but, generally, from ten to fifteen days will be found to be sufficient, although nothing can be lost by an extension of that time. Being taken from the macerating fluid, it should be again washed in a solution of the muriate of ammonia, then dissected as much as requisite, and be "put up" at once, *in equal quantities of a saturated solution of the above salt in distilled water and rectified spirit of wine.* I should observe that, in these proportions, the part is somewhat corrugated, which is not the case if *one-third* of the saline solution be used with two of the spirit; yet, in the former quantities, I have some reason to think the appearances of disease may be more securely preserved.

It is remarkable the little colour imparted to the fluid, by morbid parts macerated in it, and also the singularly small quantity of the preparation which is precipitated during the process of maceration—greatly less than when highly rectified spirit only is employed, and which very considerably destroys or removes the redness or vascularity. It would seem that this solution has the property of fixing the blood in the extreme ramifications, without constringing the vessels themselves; while rectified spirit, corrugating the delicate membranes of the minutest vessels, repels their contents into the larger, the thicker coats of which are less easily acted on; and thus reduces the appearances of inflammation, &c.

On the Propriety of Inducing Premature Labour in certain cases. By Professor D'Autrepont.—Dangerous diseases, such as convulsions, obstinate vomiting, impeded respiration, occasioned by goitre, &c. which arise during pregnancy, and threaten the life of the mother prior to the termination of the nine months, are enumerated among the causes which may justify such a measure. Objections have been urged against it, and not without foundation; but cases have occurred of females affected with vomiting, which would have terminated fatally before the period of utero-gestation, *if delivery had not spontaneously taken place at the eighth month;* all the symptoms ceased immediately afterwards.

A woman, pregnant for the eighth time, had suffered in each of her pregnancies from a goitre, which, towards the latter months, acquired a great increase of size, occasioned much difficulty in respiration, and even threatened suffocation. Bleeding, general and local, was on such occasions frequently employed, but the patient became so much enfeebled, that during the last month she was obliged to keep her bed. Her children were all small, emaciated, and soon become scrofulous. The same plan was followed in her eighth pregnancy, but this time the difficulty of respiration was much greater than it had been previously. She was bled at first every three weeks, then every 10 or 12, and lastly, every 5 or 6 days; if the bleeding was omitted, her face became black, and she was threatened with apoplexy. Her strength declined, general anasarca supervened, and the vein could no longer be found in order to bleed. She had now reached the 33d week of utero-gestation. Professor D'Autrepont proposed to induce premature labour, but his proposal was rejected. The fœtus was alive, the head presented, and the condition of the os uteri was favourable for the operation. The next day the woman was much worse, and the symptoms of suffocation continued to increase, when labour spontaneously came on, and was both rapid and easy; the child lived, and the mother gradually recovered.

In this instance, nature accomplished what art was desirous of doing; why would it not be allowable to induce labour in similar cases, when we know that it is not ordinarily attended with danger, either to the mother or child?

It sometimes happens that women in the last moments of life, are delivered of strong and healthy children, while it is rare that a living fœtus is extracted by the cæsarian operation after the death of the mother. Labour artificially induced before death, may therefore in these cases, enable us to save the life of the child, and can have little influence upon that of the mother. On this point, Professor D'Antrepont cites the case of a woman in the last stage of phthisis laryngea; her child was still living, twenty-four hours before her death. Gastro-hysterotomy was performed immediately afterwards, but the child was extracted dead. The result would, probably, have been more fortunate, had labour been artificially induced.—*Bull. des Sciences Medicales.*

In the February number of the Journal of Foreign Medicine, it was stated, that M. Lassaigne was about to analyze some variolous virus sent him from Marseilles, by M. Roux. The following are the results obtained eight days after the extraction of the matter, which, though it had been carefully put up, was at that time in a state of active effervescence. Water, 90.2; albumen, 6.0; fatty matter, 2.5; hydro-chlorate of soda, and caseate of ammonia,* 1.2; phosphate of soda and phosphate of lime, 0.1; total 100.0. He was unable to detect the presence of a *hydrocyanate*, and thinks that if the experiments of M. Trémolière were sufficiently accurate to justify his conclusion, the virus in question, must have been decomposed during the first stages of fermentation. 2,650 grammes of this virus, evaporated to dryness, gave 0,260 grammes of a brittle, yellowish, transparent residuum, having the appearance of dried albumen; which makes the proportion of solid matter contained in the liquid, to coincide with the above analysis. It therefore appears, that the virus bears a strong analogy to the serum of the blood, differing only in containing a smaller proportion of albumen, and in the presence of the fatty matter.—*Journ. de Chimie Medicale.*

Cicatrization of an Ulcerated Cancer of the Breast.—There is now under the care of M. Lisfranc, a man who three years ago, underwent the operation of removal of the breast for cancer of that organ. The disease reappearing after the lapse of two years and several months, he applied to M. Lisfranc, who found, upon examination, an ulcerated cancer of the breast, adherent and complicated, with considerable engorgement in the hollow of the axilla. In order to lessen the inflammation and size of the tumour, leeches and compression were employed, and M. Lisfranc was about to operate, when the patient was attacked with gastro-enteritis, which yielded to appropriate measures in ten days. It was at this period, that there formed upon the surface of the carcinomatous ulceration (which was about the size of a six franc piece, and presented a funnel-like shape, in the midst of an indurated and lardaceous tissue,) without the previous developement of granulations, a cicatrix of a reddish brown colour, which gradually extended over the whole ulceration; the lardaceous tissue continues undiminished in size, but has acquired greater hardness, and the lancinating pain and axillary engorgement are considerably lessened. On the day that the preceding statement was made to the Academy by M. Lisfranc, the patient was examined by M. Gendrin. He found the cicatrix closely adherent to the surface of a very indurated scirrhus, which was immoveable beneath the skin; the cicatrix is drawn in towards the centre and greatly depressed, it is smooth and polished, and a multitude of injected capillary vessels converge towards its centre, where it presents a reddish scurf. The general aspect of this cicatrix is violaceous, the scirrhus enlargement is perfectly moveable on the sides, and could be very easily extirpated; it is situated at the internal extremity of the line or cicatrix left by the former operation. There are some dull lancinating pains in the part, and also in the axillary enlargement; the latter is strongly adherent to the ribs, and like the tumour of the breast, is evidently scirrhus; in neither is there pain on pressure.—*Journ. Général de Medecine, &c.*

On the Circulation and Respiration of the Anelides Abranchi.—In the sitting of the Académie des Sciences, on the 29th of September, MM. Cuvier, Duméril, and Latreille, made a very favourable report on M. Dugés's memoir on this subject. From his researches, it appears, that in the naides and lumbrici, the blood is carried in a circle round the longitudinal axis of the body; in the dorsal vessels it moves towards the head; in the abdominal vessels, from the head towards the posterior part of the body. Between them there is an intermediate system formed of vesicles, which are covered on their external and internal surfaces by a very fine net-work of vessels, by which respiration seems to be performed. In the hirudines, the circulatory motion is round the vertical axis; each pulmonary vesicle also receives a branch from, and sends a branch to, the lateral vessel.—*Lancet.*

Urinary Calculus of Extraordinary Dimensions Extracted by Cystotomy above the Pubis. By Dr. Krimer.—On sounding the patient, the operator was led to suspect the existence of a flattened stone, about the size of a hen's egg. The lateral operation was performed with a simple bistoury, but the stone could neither be extracted nor broken into pieces. The day following, the operation above the pubis was performed, and the calculus removed with the fingers; it was of great size, weighed 23 ounces, was three inches and eight lines in length, three inches and a half in breadth, and two inches and one line in thickness; it was not unlike the heart in shape, flattened, unequal, and embossed towards the point; calcareous and porous externally, hard and marbled within. The superficial lamen was composed of the ammoniaco-magnesian phosphate and phosphate of lime: the internal, of urate of lime. Hiccough supervened on the fourth day after the operation, and continued five days, when it yielded to musk combined with quinine. No antiphlogistic measures were employed, but he took cinchona with cardamoms and acidulated aromatic tincture. Suppuration was established and the cure was progressing, but was not completed when the case was published.—*Journal für Chirurgie, &c.*

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* This salt was probably the result of fermentation.

Nitrate of Silver, used in the Treatment of Small-Pox, and Pustulous and Vesicular Eruptions.—The method of treating small-pox by opening the pustules immediately on their appearance, and touching their bases with a strong solution of nitrate of silver, maintains its reputation. Numerous cases of Zona successfully treated in the same manner, have been published. A female thus cured was exhibited in the amphitheatre at la Pitié. In several cases attended with great constitutional disturbance, gastric irritation, pains, vomiting, and shivering followed by heat of the skin, the local symptoms alone were attended to: they were immediately arrested, and the constitutional affection also ceased.

The same effect was perceived in one of the most fatal epidemics of confluent small-pox that has ever prevailed in the French metropolis. Previously to the use of the nitrate of silver, the patients were carried off by cerebral and intestinal inflammation. In those cases where the pustules were treated by the caustic, the constitutional symptoms abated with the local irritation, and the mortality was thus averted.

A case at the Val de Grace is thus described by M. Broussais: An extensive and painful zona, accompanied by fever, headach, and redness of the tongue, disappeared in a few days by cauterization with nitrate of silver. The fever ceased on the first application; a certain proof that the visceral irritation was subordinate to that of the skin.

We are not aware of its having been used in Pemphigus: it is deserving trial. The only distinction made by the French pathologists between zona and pemphigus are found on the form of the former. Pemphigus is called *Dartre Phlyctenoide;* Zona, *Dartre Phlyctenoide en Zone.—A Correspondent in Paris.—Lond. Med. & Phys. Journal.*

Nux Vomicæ in Chronic Diarrhœa and Intestinal Hemorrhage.—M. Recamier, of the Hôtel Dieu, having learnt that the nux vomicæ was used in chronic diarrhœa by the practitioners of the north, administered it in the following case, with success.

A man, fifty years of age, eminently nervous, had been long subject to alternations of bilious diarrhœa and intestinal hemorrhagy, which had reduced him to an alarming state; his lips and countenance were pallid. Sometimes the bilious flux preceded the hemorrhoidal discharge; at others, the order was reversed. Colombo, semirouba, and powdered charcoal, had been tried without effect. Opium in the dose of a quarter of a grain, disagreed. One-eighth of a grain of the alcoholic extract of nux vomica was then prescribed. On the following day the stools were reduced from twelve or fifteen to three or four. The dose was then doubled, one-quarter of a grain given, and the patient was speedily cured by this treatment.—*La Clinique.*

Spontaneous Fracture of the Os-Frontis of the Fœtus during Parturition. By Dr. Andree.—This fracture extended horizontally across the two ossa frontis at their middle part, and is attributed by Dr. Andrée to an *enclavement* of the head, the forehead having been pressed against the promontory of the sacrum. It is true, that the forceps were applied, but the force employed was very moderate, and as the blades corresponded to the lateral regions of the head, had it been owing to them, the fracture must have been longitudinal and not transverse.—*Journal für Geburtshüfle.*

Ossified Extra-Uterine Fœtus.—A female, who had been for several years at the Salpetriére, on account of mental derangement, died in her 77th year. On examining the abdomen, a small tumour was found in the pelvis, slightly adhering by some layers of cellular tisue to the mesentery, and a loop of the small intestines; the uterus and its appendages, as well as the other abdominal viscera, were perfectly healthy. On a closer inspection of this tumour, it was discovered to be the skeleton of a fœtus, surrounded by a thin, and nearly transparent membrane; it had an oval form, was two inches in its largest diameter, and was, by a sort of indenture, divided into two unequal halves, the largest of which contained the head, the smaller the trunk. The skull was very well formed, completely ossified, one and two-thirds of an inch in its antero-posterior, one and a third of an inch in its transverse, and one inch in its vertical diameter. The bones were regularly developed; not the slightest trace of a fontanelle could be found, and all the sutures were perfectly united. The frontal bone was much arched; the parietal bones were also very prominent, especially that of the right side; the temporal bones were placed almost horizontally, and exhibited the rudiments of a glenoidal cavity; that of the right side presented a sort of zygomatic arch, united to a small os malare, which terminated in a rough articular surface; the upper and lower jaw-bones were entirely wanting; the orbits were well formed; the occipital bone was a little elongated towards its upper part; its lower portion consisted of several separate pieces. The skull was united to the trunk by fibro-cartilaginous ligaments, at least an articular surface could not be found, on external examination. The trunk being somewhat curved anteriorly, showed the rudiments of a vertebral column; the place of the sternum was occupied by a very thick fibro-cartilaginous mass; the ribs, as well as the bones of the shoulder and the clavicles, were completely ossified; the vertebral column terminated below in the sacral bone, and the rudiments of the pelvis. The extremities were wanting, with the exception of some traces of the upper-arm. On internal inspection of this skeleton, the cavity of the skull was found of a regular form, its parietes being one-twenty-fourth of an inch in thickness; they were lined with the dura mater, the folds of which were well developed, and contained a gelatinous fluid, of a yellow colour, without any distinct organization. The cervical vertebræ consisted of several pieces, of an irregular form, so that the single vertebræ could not be distinguished; the dorsal vertebræ were more developed, and distinctly annular; the lumbar vertebræ, as well as the sacral bone, consisted of irregular pieces. The abdomen and thorax formed one cavity, at the upper portion of which the pleura was distinctly seen lining the ribs; its lower half contained a grayish-yellow adipocirous mass, with apparent traces of folds, representing, no doubt, the intestines. In the centre of this mass a brown nucleus was discovered, with a small cavity, which was continued, in a thin filament of the same colour, along the vertebral column, and which were very probably the remains of the heart and aorta. On the external surface of the skull, particularly on the right side, several vessels were seen running towards the median line; some intercostal vessels could also be distinguished.—*Archiv. Gén. de Médecine.*

Extensive Fracture of the Skull.—A little boy, about nine years of age, was brought into the institution in a state of complete insensibility, with the blood flowing profusely from the mouth, nostrils, ears, and eyes. A large piece of timber had fallen, from a considerable height, on his head, and caused an extensive fracture of the skull. On examining the wound, the skin above the right ear was found lacerated, and a probe introduced into this aperture, could be easily passed to the temporal region of the other side. The parietal bones were considerably depressed, and a crucial incision having been made, a large fracture was found extending over them, from the right temporal bone to the left side of the head. The anterior part of the skull was also considerably depressed, and in it a second fracture was discovered, extending from the transverse fissure anteriorly over the frontal bone towards the right eye; the margins of this longitudinal fracture were distant from each other about the tenth part of an inch, and the pulsations of the brain could be distinctly seen between them. At each pulsation, the blood rushed with great violence from the fracture. Bleeding, cold fomentations over the head, and some injections of diluted vinegar, having been employed, the little patient recovered his senses, and, the depressed portion of the skull having spontaneously risen, the use of the trephine was very properly dispensed with. The wounds were simply dressed with lint dipped in tepid water. After some time several portions of the fractured bones were discharged, and the dura mater began to be covered with granulations, which were gradually formed into a solid membranous substance. At the end of three months the child was perfectly cured.—*Graefe's Bericht des Chirurg. Augenaerzl. Inst.*

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THE

MONTHLY

JOURNAL OF FOREIGN MEDICINE.

APRIL, 1829.

From the Edinburgh Medical and Surgical Journal.

A BRIEF NOTICE OF THE DISEASE POPULARLY TERMED PUERPERAL FEVER. By Samuel Cusack, A. B. M. D. Member of the Royal College of Surgeons in Ireland, and Superintending Accoucheur to the Wellesley Dispensary for Lying-in Females, Mercer Street, Dublin.

The disease popularly denominated puerperal fever, having of late years received much attention, the following remarks would not most probably have ever been submitted to public notice, had not the author of them sought unsuccessfully among the writings already extant on this subject, for a description and elucidation of certain morbid phenomena, which in the *post mortem* examination of several late cases of puerperal fever have presented themselves to his observation.

Under the impression that it is inexcusable to withhold from public attention any fact which may possibly throw light on the pathology and treatment of a disease generally so fatal in its effects, and so little understood in its nature, he subjoins a few remarks fairly deducible from the morbid phenomena on the nature and treatment of this affection.

As the author agrees with many who have already treated this subject, that in all instances there does not exist between puerperal fever and peritonæal inflammation a difference sufficiently evident to allow us to consider the two diseases of a perfectly distinct character, he proposes to make use of the term "puerperal abdominal inflammation," under which, although any inflammation in the abdominal cavity might be classed, at present shall be considered but three forms of disease, each a species of inflammation occupying the situations presently to be defined.

Of the three species, then, of this inflammation, the first is one of decidedly phlogistic character, resembling in every respect the ordinary form of peritonitis arising from wounds or other similar causes; accompanied by fever of a highly inflammatory type. The second is inflammation of a low character, accompanied with great prostration of strength, and with fever of the lowest typhoid nature. The third consists in inflammation of a character intermediate between the two above mentioned, in some particulars resembling, and in others differing from both.

The causes, as well as the nature and treatment of the first or inflammatory species of this disease, are so well understood, that there is but little new to offer on the subject, and it shall therefore be spoken of only sufficiently to render intelligible the observations to be made on the other forms of inflammation.

1. The first or inflammatory form of puerperal abdominal inflammation is met with among patients of sound constitutions, who have perhaps, previous to parturition, enjoyed unimpaired health; who have not had a labour protracted, or of a description calculated to injure the vital powers; and who for some time subsequent to delivery may be in a state of perfect convalescence. This statement is, however, to be received with some limitation. Individuals have been known to be labouring under fever at the time of accouchement, and who were attacked with peritonitis of the most decidedly inflammatory description.

The exciting causes of this affection are various. Some of the most obvious are, exposure to cold, or the use of food unsuited to the patient's condition, &c. &c.

Amongst the first symptoms are usually rigours, with more or less nausea, soon followed by pain in the abdomen, which may in the first instance be confined to one spot, or from the very commencement may occupy the entire superficial extent of the abdominal region. The urgency of this pain is rapidly and intensely aggravated; the patient does not experience a respite from suffering for even a moment. On examination with the hand, the abdomen is found to be exquisitely tender, more or less generally so in proportion to the extent of the inflammation. This tenderness is sometimes so great, that the mere weight of the hand without pressure is sufficient to produce a considerable augmentation of pain. The pulse is accelerated, and may vary as to frequency and fulness; but it is a most important and characteristic feature in this form of the disease, that while the frequency and fulness of the pulse is subject to variation, its excessive hardness and incompressibility are remarkable and invariably constant. The white tongue, the thirst, and nausea, indicate derangement of the digestive functions. The bowels are almost always constipated; the lochia usually are suppressed; and the secretion of milk, should it have been established, is arrested. Those circumstances, however, are not to be considered as pathognomonic of this or of any other form of this disease, but merely attributable to that law of the animal economy, existing in every febrile condition of the system, arresting the secretions whether natural or the results of disease. The countenance indicates pain, but does not display that expression of sinking to which we shall presently allude, when speaking of the second or low form of this inflammation. Respiration becomes affected at an early stage of the disease, but is unconnected with any thoracic disease; it is laboured, and this laborious respiration is caused by the mode in which the patient calls into action the intercostal muscles, to escape thereby the pain consequent upon the action of the diaphragm causing pressure on the inflamed peritonæum. This form of respiration is quite different from that which may be observed at a later period, when the disease is verging to a fatal termination, when the structure of the thoracic viscera, and consequently their functions, are (*per se*) morbidly and deeply engaged.

From the preceding remarks it may be inferred, that while there may exist some degree of variety as to the other symptoms, two are constant and uniform in their occurrence, and essential to this form of inflammation. One of these is extreme hardness and incompressibility of the pulse; the other abdominal pain and tenderness.

It may here be observed, although at first view it would not appear by any means probable, that in the affection under consideration it often requires some tact to ascertain whether the abdominal tenderness be real or only apparent.

When we visit a puerperal patient complaining of any ailment, almost the first thing we look for, or the patient herself apprehends, is abdominal inflammation; and some females are so timid, that they absolutely dread when unwell the hand of the physician, and, although pain does not exist, shrink from the touch almost before the hand has had time to reach them. To avoid deception on this point, we should lay our hand on the abdomen in the most gentle manner, then dwell on one particular part, gradually increasing the pressure till we either cause the patient to evince some degree of uneasiness, or till we satisfy ourselves that there does not exist any tenderness whatever. This proceeding should be repeated over every part of the abdomen, and we ought then to return to the part first felt. The least deceitful indication of pain is the expression of the patient's countenance; and when any doubt exists as to the reality of the presence of pain, the best means of avoiding fallacy is to direct the patient's attention to some other object, when, if the pain be not felt, she betrays no uneasiness from pressure; while, on the contrary, should it be really present, her attention is at once arrested by the aggravation of the pain on the application of the hand.

Should the disease be allowed to proceed unchecked, the pain increases, and the stomach, if this be not already the case, speedily rejects all ingesta. The pulse becomes rapid and changes its character, no longer preserving its hardness, but becoming feeble, perhaps intermittent. The abdomen assumes the usual tympanitic character. In some cases there is a deceitful remission of pain; in others it continues to agonize the patient till the very last moment. In all cases of puerperal abdominal inflammation, the respiration becomes affected as the disease verges to a fatal termination; but this dyspnœa, shortly antecedent to death, originates from causes different from those by which the respiration is affected in the early, inflammatory stage of the disease. It now becomes very much oppressed, so that it is distressed and laboured; or it is attended with a violently acute pain in either side, so that the patient respires like a person labouring under acute pleurisy. This pain is often so urgent that the patient forgets that any thing else has been the matter, and thinks that, were it not for this pain, all would be well.

When the disease is about to terminate fatally, the patient is harassed with incessant vomiting. This affection is, however, of a different character, and from a cause different from that which produces vomiting in another stage of the disease; now it is a mere regurgitation of the contents of the stomach caused by the unassisted action of the viscus.

The morbid appearances found on dissection are chiefly, but not exclusively, seated in the abdomen. On laying open that cavity, a considerable quantity of inodorous gas usually escapes. The most remarkable feature is the large quantity of serum effused. This fluid is of a wheyish colour, mixed with an immense quantity of lymph, either diffused through it in small flakes, or in large soft masses. The quantity is enormous, amounting sometimes to quarts. The intestines are coated with a thick layer of lymph, by which they are often agglutinated together, so as to form cavities containing this mixture of lymph and serum, or a fluid of a sero-purulent nature. Those appearances are usually more remarkable in the vicinity of the uterus than elsewhere; they are not, however, confined to any one part of the abdomen, even the peritonæal investment of the liver and diaphragm being often found coated with lymph.

It has been stated that when the disease was about to terminate fatally, the functions of respiration became engaged. The morbid appearances occurring in the thoracic cavity are effusion into the cellular tissue of the lungs, and into the bronchial tubes, together with a serous effusion into the cavity of the pleura. Sometimes traces of more actively acute inflammation are visible, the *pleura costalis* or *pulmonalis* being found coated with a thick layer of coagulable lymph.

2. The second or low form of puerperal ab-

dominal inflammation, the true nature of which appears to have been hitherto but little understood, differs remarkably from that just described, being of a low typhoid character. The patients among whom this form of the disease chiefly occurs are usually quite differently circumstanced from those who are the subjects of the first species of this inflammation. It is much more prevalent at one season of the year than another, being sometimes quite epidemic. The seasons which appear to favour its occurrence are such as give rise to typhus fever, to erysipelas, and to diseases of a low type; yet it still has been extremely prevalent at a time when the fever hospitals were almost empty.

The vitiated air of crowded hospitals must certainly more or less predispose to this affection. I believe, however, that the influence of this cause has been overrated, and that, if the same number of patients of a similar class were attended at their respective habitations, there would not be found so wide a difference as is generally supposed to exist in the proportion of persons attacked by this form of inflammation.

But by far the most powerfully predisposing causes are derangements of health, and impaired and broken down states of the constitution previous to delivery. A large proportion of persons labouring under this affection are known to inhabit badly ventilated rooms, and to live on innutritious kinds of food. Of this, patients labouring under typhus fever at the time of their accouchement, and individuals who have suffered much from hemorrhage antecedent to or during parturition,* or who have had protracted or harassing labours, are often the subjects. Extreme mental anxiety or distress most powerfully predisposes to this affection. Thus, some of the females who have been the subjects of this low form of disease are known to have been the victims of seduction, and consequently under the depressing influence of mental suffering and despondency attendant on their wretched situation.

The form of disease under consideration differs from the first described species of inflammation, not only in its causes but also in its symptoms.

Pain, which in the acutely inflammatory species is one of the essential and best marked symptoms, is not necessarily present, being often in the most fatal instances totally absent for some time, and found to exist at the commencement only of the disease, or should the disease be of long duration, only towards its termination. When the patient is interrogated as to her sensations, she does not appear to be so totally absorbed by pain as to be regardless of any other sensation; but, on the contrary, has something else to complain of, such as weakness or debility, local or general; and frequently it is only by means of a very careful examination, and by making pressure with very considerable force, that any abdominal tenderness can be detected.

The character of the pulse is quite different from that in the first species of this inflammation, in which hardness and incompressibility are always to be considered as accurately pathognomonic of this disease. In the second or low form, the reverse is the case, the pulse being always characterized by excessive weakness and compressibility, the slightest pressure of the finger on the artery being sufficient to prevent the pulsation being felt at all; and so remarkably is this the case, that one of the most certain indications of the patient's improvement is the accession of some degree of strength to the pulse, along with an increase of resistance on pressure.

The patient usually complains of extreme weakness and exhaustion, as well as of want of rest, and occasionally, in the most urgent manner, begs for nutriment of some description.

The expression of suffering in the countenance is characteristic, but differs from that observable in the first species of the inflammation, being indicative of exhaustion and anxiety rather than pain.

The state of the bowels is not uniform. Constipation does not exist to the same extent, nor require the same powerful medicines for its removal, as in the first species of this disease; yet, at the same time, the bowels are more or less loaded, and the hepatic and intestinal secretions are considerably deranged. The tongue sometimes is white, at other times its colour is natural. Occasionally it is of a bluish whiteness, as of cream spread over a dark ground,—a condition of the tongue, with very few exceptions, peculiar to the disease; or it may be of an inky blackness. In such cases the tongue is not at all coated or loaded, but the colour appears to be seated in the papillæ of the tongue; and it is a remarkable fact, that when the disease manifests any signs of amendment, the tongue becomes coated with a thick brown crust, like that observable in common fever.

The temperature of the body is not increased; on the contrary, it is usually below the natural standard, and there are irregular rigours in the progress of the disease. Towards the fatal termination of the disease, the skin sometimes, but not invariably, is covered in various parts with large livid spots.

This form of the disease is extremely rapid in its progress. There is, however, but little variety in its symptoms; as in the inflammatory form, so too in this, there is a regurgitation of the contents of the stomach by the unassisted efforts of that viscus.

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* In cases of immoderate uterine action, venesection is often resorted to as a means to prevent inflammation and to subdue spasm. The author, however, thinks venesection justifiable in the former case alone, and in it only when the patient is of a plethoric strong habit. He has so frequently seen bad consequences result from the abstraction of large quantities of blood, that he is inclined to use means calculated to produce a temporary depression only of the animal powers, as tartar emetic, &c. when, from the excessive vascular action, we should, in the first instance, dread the employment of opiates.

The temperature of the body gradually diminishes, and the patient at last sinks exhausted.

The pathology of this form of inflammation is quite characteristic, being of a nature totally different from that of the foregoing species. In this the copious effusions of lymph, which present themselves in the other species, are not to be met. The effusion into the peritonæal cavity is moderate in quantity, amounting sometimes not even to a pint. Its nature is peculiar, being sometimes of a dark aqueous appearance, perfectly free from any traces of lymph, presenting somewhat the appearance of stale beer; sometimes it is of an oily purulent appearance; but the peculiar and remarkable seat of disease which has been observed in some of the best marked cases of this low form of inflammation, is the subserous and the pelvic cellular tissue.

Two kinds of effusion are met with in the cells of those tissues, one a reddish serum, occasionally so copious as to pervade not only the cellular tissue about the uterus, the pelvic cavity, and the iliac regions, but even sometimes to distend the cells of the delicate cellular tissue, which connect together the two layers of the mesentery. The other species of effusion is not of so fluid a nature, resembling jelly in appearance and consistence. This also occupies the cellular tissue, and is most conspicuous where the looseness of the peritonæum admits of freer effusion. Thus the lax nature of the cellular tissue connecting the layers of the peritonæum which form the broad ligaments of the uterus, admits of its being poured out in considerable quantities in that situation.

The uterus frequently is softened and flabby; that diseased state just described extending to its interstitial cellular structure. Darkly coloured softened patches are often observable in different parts of both small and large intestines. The ovaries in some instances undergo a remarkable change, becoming much enlarged and quite altered in appearance, and converted into a soft mass of the consistence of coagulated blood, so that those bodies seem to undergo a process resembling the *ramollissement* of other parts. This softening takes place to such a degree that it is almost impossible to take them in the hand without destroying their texture; and this softening is not the only morbid appearance in the ovaries, as they are often much enlarged, equalling the size of a large apple.

The thorax also is the seat of effusion in this as well as in the preceding forms of this inflammation; but there is not ever found that coating of lymph, (on its pleura,) or effusion of the same nature into its cavity, which is to be met with in the first form of the disease.

Should blood have been taken from the patient labouring under this affection, it does not exhibit the buffy coat, but forms a soft coagulum broken up by the slightest violence.

3. The third form of inflammation is believed to be the most frequent of all. At the same time it is admitted that there may be certain seasons when the first or inflammatory species is at least as prevalent. Although, however, this form of the inflammation is believed to be so common, I shall not dwell on its symptoms and pathology, since it does not possess the same peculiarity of symptoms. But since it presents certain symptoms in common with the other two forms of the disease, its true character shall be explained, by considering in what particulars it resembles, and in what it differs from the other forms of the inflammation, rather than by any formal delineation of its own peculiar symptoms.

This form of the disease resembles the first in being characterized by the violent abdominal pain and by tenderness on pressure, a symptom never absent, and which may be considered as the essential one of this form of the inflammation. It resembles the inflammatory form of the disease also in the increased temperature of the body, and by the absence of that sensation of weakness and collapse which ever accompanies the second or typhoid form. It differs from each form in the character of the pulse, which neither possesses the hardness and incompressibility peculiar to that of the first, nor sinks into the weakness and compressibility of that of the second. The condition of the tongue and of the digestive system is the same as in the inflammatory species.

The individuals who are the subjects of this affection have in general been weakened more or less, but have not by any means been in that impaired and debilitated condition of health by which the low form of the disease most generally is induced. Thus it not unfrequently happens that individuals who previously enjoyed good health, but have suffered from hemorrhage during delivery, are the subjects of this species of the disease.

The pathology of this form, like its symptoms, is not characteristic. It resembles, apparently at least, that of the inflammatory species so much, that in general, without a knowledge of the previous history of the case, we should be at a loss, from the mere pathologic evidence, to determine to what species of the inflammation it is to be referred, there being usually found the same copious effusion of serum and lymph.

In more than one instance, however, a combination of the morbid phenomena, occurring in the two first described forms of the disease, has been observed; the cellular effusion existing in a slight degree only, and generally about the front of the uterus and bladder, while the ordinary effusion of lymph and serum occurs in the general peritonæal cavity.

Before pointing out what is conceived to be the rational mode of treating the different forms of this disease, it must be premised, that, from the intermediate place which many cases hold, it is often with considerable diffidence that we determine on the plan of treatment to be adopted. Moreover, although the mortality of the disease under consideration will, it is thought, be considerably diminished by the adoption of the rules for its treatment now to be laid down, still it is to be considered as a disease not by any means obedient to medical treatment.

The consideration of the treatment of the inflammatory form of the disease might perhaps be dismissed by briefly stating that the antiphlogistic regimen should be adopted in its fullest extent; or, in other words, that the treatment employed by almost every practitioner for the relief of the ordinary form of *peritonitis* is to be pursued. As the peculiar condition of puerperal females, however, demands some modification of treatment, we shall briefly consider each of the remedies usually employed in such cases.

Venesection in the disease under consideration deservedly ranks as a most efficient and valuable remedy. The warmest advocates for the use of the lancet, however, admit that its value depends in a great measure on the manner in which it is put into execution; and to render it effectual, the principle usually observed is to perform the operation in such a manner as to produce, with the loss of a moderate quantity of blood, an immediate and decided effect. For the fulfilment of this object it is usual to make a large orifice, and to allow the blood to flow from the patient while in an erect posture.

Now, although there are few cases in which an unnecessary expenditure of blood is more to be deprecated than amongst puerperal females, still the practice of making the patient sit upright during the abstraction of blood, found so advantageous in many other diseases, is calculated in this to lead us into mistakes of a very mischievous tendency; for the mere act of sitting up, abstracted from the effects of loss of blood, is often sufficient to produce syncope, which, when it occurs prematurely, does not in the least mitigate the sufferings of the patient, and in all probability deters us from the farther abstraction of blood in cases where its adoption may be of vital importance.

The predisposing cause of this tendency to syncope among females lately delivered, appears to originate in the increased influence which gravity has on the circulation about the abdomen and upper part of the body, in consequence of the relaxed state of the abdominal parietes, and of the removal of the large uterine tumour which heretofore exerted such considerable pressure on the trunks of the abdominal vessels; and the tendency to syncope is further increased by the patient's having been, at the period when they are usually attacked with this affection, for some days in the recumbent posture.

Hence the practice which we would adopt is that of opening the vein by making a large orifice while the patient is in the recumbent posture; if she is strong and plethoric, continuing to abstract blood without altering her position till, either from the occurrence of syncope, or of some other circumstance, we have reason to suppose that a decided effect has been produced. If, on the other hand, we be apprehensive of the patient's bearing the loss of blood badly, as soon as the quantity deemed sufficient is abstracted, we direct a change of position from the horizontal to the upright, and thus induce syncope without the chance of deception from the circumstances to which we have alluded. The selection of the time suitable for performing venesection is of paramount importance; the sooner, after the occurrence of the usual inflammatory stage of reaction, this remedy is resorted to, the more decidedly beneficial will be its effects. In the repetition of venesection, as well as in its adoption, when it has not been performed at that period which is considered to be the most expedient, we are to be guided by the state of the pulse and of the abdominal pain. Venesection is to be repeated, or, should it not have been previously employed, to be adopted whenever abdominal pain exists, accompanied with the hardness and incompressibility of the pulse, which have been already remarked. Should the pulse, however, lose the character peculiar to the early inflammatory stage of the disease, and assume that weak faltering state, into which it ever sinks when the disease verges to a fatal termination, the employment of the lancet then will have but the effect of accelerating the patient's dissolution.

The application of leeches will be found to be most efficacious, subsequently to venesection; although, however, their employment should rarely be dispensed with, we should never rest satisfied with their sole application. It is almost superfluous to observe, that fomentations properly managed will add materially to the benefit to be derived from the application of leeches. The most decided benefit will often result from the employment of blisters. They should be large enough to cover the entire abdomen, and ought only to be employed after general and local depletion.

In most cases of this form of inflammation, we find that the patient's bowels have been for some time constipated; and not unfrequently that the origin of the disease may be traced to neglected constipation. It is evident that this state should be removed as speedily as possible; and unless the irritability of the stomach deter us, active purgative medicine should be administered. For this purpose we may select a bolus consisting of ten grains of jalap, five of calomel, with the addition of three or four grains of scammony, and as many of aromatic powder; this to be followed in two or three hours' time by a mixture of the infusion and tincture of senna, with sulphate of magnesia, a wine glassful of which may be taken for a dose, and repeated every second hour, till the bowels have been sufficiently acted upon.

Should the stomach be irritable, it will be more prudent to exhibit medicine in some form which will be less likely to excite nausea. Two or three pills of equal parts of cathartic extract and calomel, made into a mass with some of the essential oils, may be taken every second hour, and their action promoted by the exhibition of Rochelle salts, given in an effervescing state, with the bicarbonate of soda and lemon juice. In conjunction with purgatives given by the mouth, *enemata*, which are active, but not stimulating, should be administered. The enema of the Dublin pharmacopœia, made more active by the addition of an ounce of the muriate of soda, will be found to answer the intended purpose.

Having, in the first instance, freely evacuated the bowels, we deem it imprudent to persevere in the continuance of the active purgatives first exhibited; but in the progress of the complaint it is better to keep the bowels gently open by the employment of enemata, and by mild purgatives, as castor oil, given in some agreeable vehicle, or the sulphate of magnesia in solution in the infusion of roses. For this practice the reason is, that the disturbance of the inflamed parts, necessarily consequent upon the operation of purgatives, powerfully tends to prevent resolution; and also that it is questionable whether the seat of inflammation be not too near the mucous membrane of the intestines to admit of what in more distantly seated inflammation may be safely practised,—the lowering of the system by the increase of the mucous secretion.

The next object of importance is to bring the patient under the influence of mercury as rapidly as possible. This is to be best effected by the exhibition of calomel, which may be given in doses of from three to five grains every second hour. It happens occasionally that the calomel produces tenesmus and irritability of the bowels; but these unpleasant effects may always be removed by the administration of a few drops of tincture of opium, in combination with cinnamon water and syrup of ginger, or by the addition of the eighth or of a quarter of a grain of opium to each dose of the calomel.

Little need be said on the employment of nauseating medicines or of diaphoretics; for although in many instances they may be found useful as auxiliaries, yet they should not in any case of this species of inflammation supersede the use of the means which have just been described.

The general management of the patient ought to be conducted on the principles held in view in the treatment of all inflammatory diseases. The patient's diet should be of the most antiphlogistic description, that is, as long as the symptomatic fever preserves its original inflammatory character. Should it, however, assume at any time the low type of fever which accompanies the second species of inflammation,—a circumstance not unfrequently found to take place, it will be necessary to substitute the dietetic plan of treatment which presently shall be described as applicable to the second form of the disease.

In the second, or typhoid species of puerperal abdominal inflammation, a mode of treatment diametrically opposite to that which has now been described is to be adopted;—the depleting system, which in the first species of the disease is so decidedly called for, being here totally inadmissible.

The employment of the lancet at any stage, or even of leeches, in most cases, only accelerates the fatal termination of the disease. To form a rule of treatment, it becomes necessary to consider what the character of the disease is. It consists in local inflammation of a low unhealthy character, accompanied by constitutional fever of a corresponding nature. The local and constitutional affections, if unchecked, react on each other, so as to render the circumstances of the case progressively worse. The means usually employed for subduing inflammation, if applied here, would not only be inefficacious, but absolutely injurious, depleting measures having the effect of increasing the debility and exhaustion already present.

It is therefore only by removing the causes which tend to keep up this state of the system, and through the medium of the constitution generally, by imparting to the seat of disease a degree of tone and healthy action, that the local inflammation may be expected to assume such a character as may admit of favourable termination by resolution.

Should the patient, therefore, occupy an unhealthy, ill-ventilated residence, her immediate removal should be, if possible, effected; but if this is impracticable, measures should be taken to allow a free ingress of uncontaminated air. When removal is practicable, it should never be neglected. It may always be effected without inconvenience, by placing her in a bed of such a description as will admit of being moved from one place to another. With a similar view, indeed, the propriety of adopting, during the warm seasons of the year at least, the use of tents, may be suggested to the managers of lying-in hospitals. This expedient would obviate the necessity of crowding an hospital, and, should an epidemic prevail, would afford an opportunity for taking the necessary measures of ventilation, painting, &c. Although the use of tents has not yet, at least so far as the author knows, been adopted anywhere for patients labouring under the disease in question, yet the great benefit which attended the employment of tents when the ordinary form of fever was prevalent in this city, speaks strongly in favour of such a measure. At the time alluded to several individuals who were the subjects of fever while pregnant, were delivered in those tents, and, notwithstanding, had a favourable recovery.

The next circumstance to be held in recollection is, that, in addition to the generally deranged state of the patient's constitution, the digestive functions are more particularly affected. The bowels usually are torpid, and although there be not absolute constipation, still the intestinal canal is loaded, its secretions are deranged, and the hepatic function more or less impaired. As those symptoms tend to maintain the derangement of the general system, they should at once be obviated. To effect this, we suggest the immediate exhibition of from five to ten grains of calomel, followed in the course of two or three hours by some cathartic medicine. The selection of the cathartic to be employed is not, in this form of disease, by any means a matter of indifference.

Any medicine which, by drastic properties, has the effect of debilitating the system, is highly injurious. A medicine, therefore, is to be selected, which, while it unloads the intestinal canal, will impart a healthy action to its mucous coat, and will have the effect rather of exciting than of depressing the general system. It is unnecessary in this place to dwell upon the sympathy which exists between the general system and the intestinal canal, as intestinal derangement is well known to interfere in a most material degree with the performance of the various functions of the animal economy. Holding, therefore, in view the objects now stated in the choice of a purgative, we select the spirits of turpentine, which may be exhibited in draughts composed of about six drachms of the spirits, the same quantity of cinnamon water, and a drachm of syrup of ginger. These draughts should be repeated every second hour, till the bowels are sufficiently evacuated.

The property of unloading the intestinal canal, and at the same time of acting as a general stimulant, are, it is thought, the circumstances to which turpentine is indebted for its value as a remedy in some cases of puerperal inflammation. Whilst, however, it may fairly be considered a most valuable remedy in the low form of the disease, it appears questionable whether its exhibition may with propriety be resorted to in the first or phlogistic species.

It will be found that in almost every instance of this (the typhoid) species of the inflammation, although the patient may suffer but little from pain, still she passes a considerable time without sleep; and this want of rest materially aggravates her already debilitated condition. Having, therefore, resorted to the means already specified for improving the state of the alimentary canal, we should next exhibit anodyne medicines. Two grains of opium may be given, either alone or combined, when much debility is present, with camphor or ammonia in the form of a bolus, or draughts may be directed, composed of twenty drops of tincture of opium, ten drachms of camphor mixture, and a drachm of the aromatic spirit of ammonia; to be taken every second hour till rest is procured.

Still holding in view the objects already stated of imparting a degree of healthy action to the system, we pay attention to what may be partly considered the dietetic management of the patient. A liberal quantity of wine may be allowed, to be taken diluted, and flavoured with cinnamon, or some agreeable aromatic; or a couple of table-spoonfuls may be taken occasionally in a small cupful of whey or of arrow-root. Chicken broth properly prepared will be found an extremely useful article; and in small quantities it may form a part of the patient's ordinary drink. From personal experience, the author cannot speak of the effects of the sulphate of quinine; but from its great efficacy in other diseases of a character not very dissimilar from that under consideration, it is thought that its exhibition in this disease might be attended with considerable advantage.

The direct means of subduing this (the low) species of the inflammation are limited, being confined to blisters and mercurials, remedies of considerable value, and which ought not in any instance to be omitted. As soon, therefore, as possible the abdomen should be completely covered with a blister, which ought not to be removed till its specific effect has been produced. It is necessary, however, to bear in mind that some individuals suffer considerably from the irritative effects which a blister occasionally produces. Such an occurrence would be extremely unfavourable in a case of the disease under consideration. Its approach should be carefully guarded against, and, if its occurrence was to be anticipated, the blister should instantly be removed.

The calomel is to be administered with the view of affecting the patient's system in the manner which we have recommended when speaking of the first species of the inflammation; and should it act too powerfully on the bowels,—a circumstance which must tend to debilitate the patient,—the opium of which we have already spoken of as so useful may be given in combination therewith.

Throughout the progress of this species of abdominal inflammation, even in those cases which ultimately terminate favourably, a renewal of the symptoms of exhaustion and watchfulness will often occur, so as to demand a repetition of the exhibition of the anodyne and stimulating remedies.

We have already stated, that, when a case of this kind proceeds favourably, it is to be expected that the accompanying fever will assume a less typhoid character. When this favourable circumstance occurs, stimulants must be used with a more sparing hand, and such substitutes made use of as strengthen without exciting the constitution.

In the treatment of the third species of the inflammation, what has been said regarding the two foregoing species will render minuteness of detail unnecessary. In this form of the inflammation, while general blood-letting is to be considered inadmissible, topical may often be employed with considerable advantage. From two to three dozen of leeches should in every case be applied to the abdomen, and the bleeding promoted by the usual means. The application of the leeches may be repeated, unless the patient should appear to be weakened by the bleeding ensuing upon their first application;—should this be the case, a blister may be applied. The bowels should be freely evacuated by means of turpentine preceded by calomel, in the manner already mentioned in the management of the typhoid species of the disease; and the mercurial treatment is to be adopted as in both forms of the disease. The dietetic treatment is to be that used in the first species of the inflammation, in being of the most decidedly antiphlogistic description.

The principles upon which it is thought that the different forms of puerperal abdominal inflammation may be most advantageously treated being now laid down, it is deemed necessary to repeat, that but few cases of this disease preserve throughout their entire course an undeviating uniformity of character, so that it would not by any means be a scientific or successful mode of treatment to follow without deviation the line of treatment at first entered upon. Our remedies, on the contrary, should always be adapted to the exigencies of the case; and although we commence the treatment of a case under the firm conviction of its requiring the management suited to one particular form of the disease, we should not be the less ready, on its assuming another type, to substitute that kind of treatment applicable to a species altogether opposite.

Having in the preceding part of this paper considered to a certain extent the symptoms, treatment, and pathology of the three different species of what has been termed puerperal abdominal inflammation, some farther observations shall now be made on the nature of the low form of this inflammation; for although this form of the disease, is, so far as the author's experience extends, of less frequent occurrence than either of the other two species, yet a knowledge of its pathology is thought to be of considerable importance, as calculated to elucidate the nature as well as the treatment of the other species of the inflammation.

To view the low form of puerperal abdominal inflammation, or, as it has been termed, puerperal fever, in its true light, it seems proper to consider it as a disease whose essential character consists in local inflammation of a peculiar nature, accompanied by fever of the lowest typhoid description; as a disease not by any means exclusively confined to puerperal subjects, yet modified by the puerperal state, but on the contrary it may occur (and frequently does occur) in individuals of either sex, produced by the effects of bruises, wounds, surgical operations, &c. Nay, it frequently may arise idiopathically, or at least from a cause not by any means manifest. I must further observe, that this disease, if not the same, is at least a modification of that known by the term "Diffuse Cellular Inflammation;" and although in some of the fatal cases of this disorder the cellular membrane is the seat of disease, yet this last mentioned circumstance is not necessarily or universally the case; and inflammation of a character similar to that which has its seat in the cellular membrane may attack the peritonæum, the uterus, the ovaries, or other parts. It may farther be argued, that inflammation of the character we are considering is not, when it attacks puerperal women, confined exclusively to the abdominal region, but may, and not unfrequently does, affect the cellular structures of the lower extremities, and thus produce a fatal disease, by some considered *phlegmasia dolens*. Lastly, the predisposing and exciting causes of the low form of puerperal abdominal inflammation, although apparently different, are of a precisely similar nature to those which induce "diffuse cellular inflammation;" to which disease, as has already been observed, the typhoid form of puerperal abdominal inflammation bears a close similarity. In short, little reasoning is necessary to explain the true nature of this disease to any one who watches attentively the progress of a case of it till its fatal termination, and who subsequently investigates accurately its morbid phenomena.

The local and constitutional symptoms, the predisposing causes of the disease, the kind of patients among whom it occurs, and its analogy with other diseases, seem at once to stamp its true character. The seat of the morbid phenomena may be in the pelvic or in the subserous cellular tissue, or in the ovaries, or, as most commonly is the case, in the peritonæum, or it may present itself in all these structures at the same time. The effects of this process have already been described; and the importance of those cases in which the serous or gelatinous effusion occurs has been already evinced in throwing light on the pathological appearances, when confined exclusively to the peritonæum. These appearances shall now, therefore, be contrasted with those which are the effects of healthy or phlegmonous inflammation in the same parts; and first of the cellular structure.

Healthy or phlegmonous inflammation occurring in cellular structure is characterized by its tendency to become circumscribed by the effusion of coagulable lymph. Here there is quite a different state of things; the fluids poured out in consequence of the inflammation are diffused throughout the entire structure, there not being any provision established by nature for setting bounds to this species of inflammation. Similarly in serous structures healthy inflammations are found to cause adhesions, as may frequently be seen exemplified in the *pleura, tunica vaginalis*, &c.; or should the inflammation not be circumscribed, large effusions of coagulable lymph and of serum take place; and these effusions we observe to occur even in the second form of abdominal inflammation, which form is not considered to be a disease of a purely inflammatory character. In the form of the disease now under consideration (that species in which occur the serous or gelatinous effusions) the effusion of lymph is altogether absent, or if occurring at all, is found in a very small proportion, the peritonæal effusion being either serous or of a sero-purulent nature. With respect to the ovaries, it has been thought* that the effect of inflammation would be to render these organs more firm and dense, and, if carried to any great extent, to produce suppuration; but here there is no appearance of suppuration, and, instead of hardening, there is complete ramolissement of their structure.

As to the accompanying fever, the great prostration of strength, the weakness of the pulse, and lowness of the temperature of the body, must at once convince any one at all conversant with fever of its low typhoid character.

It has already been stated that the disease under consideration is found to attack individuals whose health has been impaired previous to delivery, or those who had suffered from profuse hemorrhage, harassing tedious labours, &c. Persons of almost any experience are aware that amongst the patients who have suffered from those or similar causes, we very seldom meet with any attacked either by fever or inflammation of a healthy inflammatory character. It is well known that almost all the cases of inflammation which have occurred in this country from wounds inflicted in dissections or from some other similar causes, have been of a low unhealthy character.

The similarity of the two diseases may further be inferred from the fact,—that the disease under consideration is not peculiar to, although modified by the puerperal state; but, on the contrary, the inflammation which I represent to be seated in the cellular membrane, in the ovaries, or in the peritonæum, is of a character similar to that of an inflammation which may attack indiscriminately patients of either sex. To prove this to be the case, the reader is requested to contrast the appearances met with in case p. 277, with those described by Dr. Duncan. In the case alluded to "the entire subserous tissue was filled with reddish serum." Dr. Duncan records as the most remarkable appearance of a well marked case of inflammation "the cellular tissue being tinged with a bloody serum." He farther says, "where the inflammation, in consequence of spreading, affects the cellular tissue which forms the attached surface of a serous membrane, the serous membrane becomes affected, and then the disease spreads rapidly and independently in this membrane, producing all the phenomena of inflammation of a serous membrane." From this description, and from some dissections related by the same author, wherein the cellular membrane of the thorax and of the pleura had been the seat of this disease, there appears not to be any doubt of the similarity of the two diseases.

Here, however, I may remark, that, although it is not by any means my opinion that in the cases which have come within my observation, in which effusions into the cellular membrane and into the peritonæal cavity were co-existent, the inflammation of the peritonæum giving rise to that effusion is the necessary consequence of its proximity to the diseased cellular tissue, (although this in some instances might be the case;) for in those cases there was a similar state of the pleura, in the vicinity of which no cellular effusion existed; and a precisely similar appearance of the peritonæum is to be met with where cellular effusion is totally absent. In such cases the inflammation of the peritonæum is believed to be of a peculiarly low character, and not of the same description as the usual inflammatory affections of serous membranes; and from the similarity of the effusions into the cavity of the peritonæum in cases where the cellular effusion is present, and in those where it is absent, it may be inferred that the effusion in both instances into the cavity of the peritonæum is of a homogeneous nature. Besides, in our surgical hospitals not unfrequently we meet with patients, who, after undergoing operations for stone, *fistula in ano*, hemorrhoids, &c. fall victims to an affection so similar in its character to that of the disease just described, that any person who has observed accurately the phenomena of the two must at once be impressed with their striking similarity. In both instances we find the patients to be persons of broken down constitutions, or to have been for some time previously labouring under ill health. This affection often is much more prevalent at one season of the year than at another, when patients operated on under different circumstances as to season and health recover without any unfavourable symptom, or are merely affected with the common healthy peritonæal inflammation. The appearances observed on dissection in the child of Clock, who had died of this disease, would tend to limit the views which the author has ventured to take of this subject. In that instance it was almost impossible to trace any differences between the *post mortem* appearances of the child and those of the mother; and although, from the age of the child, it was impossible to form any opinion as to the nature of its disease, yet the morbid phenomena would, it is presumed, warrant the conclusion that the affection of which it died was of a nature similar to that of the disease under present consideration; and this conclusion is still farther strengthened, when it is remembered that the process of ulceration and sloughing of the umbilicus was going on in a child, who, from the want of breast milk, was necessarily placed in a condition similar to that which in an adult so powerfully predisposes to this affection.

Dr. Hull, in his work on *Phlegmasia Dolens*, has taken considerable pains to trace an analogy between that disease and puerperal fever; and Dr. Duncan seems to consider *phlegmasia dolens* and diffuse cellular inflammation as similar affections. To me, however, it appears that *phlegmasia dolens* differs from both, but that there is a disease with which the lower extremities of puerperal females is attacked, a case of which is instanced by the latter author, as described by Professor Caspar. This disease is of a character similar to that of the disease which has been under our consideration, which was seated in the pelvic or abdominal cellular tissue.

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* See Bailie's Morbid Anatomy.

The predisposing causes of this affection have been dwelt on at a considerable length. Their similarity to those of the unhealthy species of inflammations, by the operation of which causes the animal system is incapacitated from being the subject of a healthy inflammatory action, has, it is hoped, been sufficiently clearly demonstrated. Any farther parallel between them shall therefore for the present be forborne. It might at first sight be supposed that their exciting causes were of dissimilar natures, the diffuse or unhealthy inflammation being in general the consequence of a wound or injury; but this is not necessarily the case; for this species of inflammation may arise from numerous other causes, and sometimes occurs idiopathically, or at least without any apparent cause; and the slightest abrasion,—an occurrence not very unlikely to take place in the process of delivery,—is at least as likely to produce that affection as the most extensive wound. Besides, we know that it is universally admitted that there are some circumstances which predispose puerperal women to peritonitis, and it is a matter of high probability, that the same causes acting on an individual of a bad constitution may give rise to that inflammation, the nature of which we have been considering.

One circumstance appears to militate against the probability that the disease under consideration, and that to which it is thought to bear a close resemblance, are analogous. This circumstance is the extreme degree of pain in the one case, and the absence of it in the other. If, however, the mode in which some authors explain this circumstance be correct, the difficulty may be easily obviated. By some it is supposed to result from distention, whereas the abdominal cellular tissue, especially of a female recently delivered, is of so lax a texture, that we could scarcely suppose this cause to have any, the least effect.

It remains now to be observed, that this form of the disease has not been altogether unnoticed by the different authors who have treated of the subject of puerperal fever, although, as already stated, they have not, in any instance of which the author is aware, attempted to explain either its pathology or nature. Traces of this fact may be found in the observations of "Hull on Phlegmasia Dolens," and in those of "Dr. John Clark on the Fever of Childbed." The latter author's account of the pathology of the disease does not correspond with my experience; but I believe that he generalizes too much, not pointing out the distinction between the low form of the disease and the third or intermediate, the pathology of which corresponds with his description, and which is not, as has already been stated, distinguishable from that of the first or inflammatory species of the disease. More recently Dr. Armstrong notices this form of the disease under the denomination of the "congestive puerperal fever." He confesses, however, that he is ignorant of its pathology; and we certainly cannot agree in opinion with his view of its nature, by which he has been led to recommend a mode of treatment which we conceive to be decidedly injudicious. In the third volume of the Dublin Hospital Reports, this form of the disease is also alluded to by Dr. Douglas; and we have stated at page 276 how we conceived our views to be borne out by the observations of Mr. Travers. It may seem strange that the appearances which I have described should have been unnoticed by others; but the surprise may be lessened when it is remembered that the form of the inflammation which I have been describing is not of very frequent occurrence, and that it is not in every instance that those peculiar appearances of the cellular membrane which are here described are observed. In addition, we find from the description given by some authors of their dissections, that their attention had not been directed to those parts which often are the seat of the effusion we have attempted to describe. Thus one author finishes a detail of about twenty cases by saying, "the uterus and its appendages lay hid in the pelvis," evidently showing that the parts in the vicinity of that cavity lay wholly uninvestigated.

In conclusion, though in some respects I agree with the views of other authors on this disease, in others I find it impossible to adopt their opinions. I differ especially in my views of the nature of the typhoid or low form of puerperal peritonitis and its gradual transition into the others; and my experience has satisfied me, that the treatment of this disease and its kindred varieties should be conducted on very different principles from those which regulate our practice in the genuine inflammatory form. In illustration of these views, pathological and practical, I subjoin a few cases of each form of the disorder.

The three following cases afford examples of the first or phlogistic species of puerperal abdominal inflammation.

Case I.—C. Aston, ætatis 30, while labouring under fever then epidemic in this city, was delivered of a healthy child. The fever was of a mild type, but was followed, as most cases of the disease then epidemic were, by a relapse. On the morning of the twenty-first day after her delivery she was attacked with rigour and violent abdominal pain. She knew not of any cause for these symptoms, excepting some trifling irregularity in diet, having eaten some meat the evening preceding.

She was visited within four or five hours after the first occurrence of rigour, &c. She complained earnestly and frequently of urgent abdominal pain, of which her countenance was strikingly indicative. She lay supine, with the lower extremities drawn up on the trunk. Her pulse was small and frequent, and exceedingly hard; tongue white; slight nausea; not any alvine evacuations for some days; she dozed at intervals, but was frequently roused by pain, which was exceedingly aggravated by any, even the slightest motion.

A cathartic powder (calomel and jalap) was administered, and she was placed in an erect posture for the purpose of venesection, on performing which, almost simultaneously with the appearance of the blood, she sunk into a state of most perfect syncope.*

She was quickly replaced in the horizontal position, and the arm bound up.

She was visited again in about two hours. Not any amelioration of the already described symptoms was perceptible; the pain, on the contrary, was more urgent, and the bowels had not been moved by the medicine. The small quantity of blood which had flowed from her arm, exhibited the most unequivocal traces of high inflammation. It was resolved to try again the effect of venesection.† On performing it the result was totally different from what it had been in the former instance. Syncope did not ensue till about twenty ounces of blood had been abstracted, and then it was accompanied with sickness of the stomach, and free evacuation of the bowels. On recovering from the immediate effects of the loss of blood, the pulse was found to be full, soft, and less frequent; the abdomen also had in a great degree lost its painful sensibility.

Leeches were now applied to the abdomen, and were followed by a blister. Three grains of calomel were administered every hour.

From this time the patient did not experience any return of pain, and in a few days suffered only from excessive salivation.

Case II.—E. Cuming, ætat. 30, a robust healthy female, was delivered on Wednesday, at 5 P. M., after an easy natural labour. She remained perfectly well till Friday morning, when she was attacked with rigours and violent abdominal pain. When visited, although under the influence of opium, which had been injudiciously administered, she was painfully sensible of the slightest pressure on the abdomen. Her limbs were drawn up on the abdomen, which felt exceedingly full. The pain was much aggravated by motion of any kind. Her countenance flushed; tongue white and loaded; bowels had not been evacuated since delivery; skin hot and dry; pulse 160, small, incompressible, and vibratory.

Venesection was performed without altering her position (supine.) When about twenty ounces of blood had been abstracted, she was raised into the erect posture; and when about five ounces more of blood had flowed, she became quite faint. The vein was then closed, and she was replaced in the horizontal position. A powder (fifteen grains of jalap and ten of calomel) was administered, and followed in two hours by a draught of the infusion and tincture of senna, and sulphate of magnesia.

In the evening her pulse was 120, full and soft; bowels not yet acted upon, but were freely during the night; and on the following morning did not complain of pain, but only slight tenderness in the abdomen on pressure; pulse was of the same frequency and character as the preceding evening; tongue beginning to become clean round the edges. She was ordered to take three grains of calomel every third hour. In the evening there was not any return of abdominal pain, but she complained of intense headach; the surface of her tongue wherever the white coating was absent, was of a florid* redness. The hair was removed from her head and cold applied; calomel continued during the night, and was followed in the morning by a draught of castor oil.

The next day she was perfectly free from pain; pulse 85, soft and full; slight ptyalism. From this period the patient gradually recovered.

Case III.—This case is another instance of the first species of puerperal abdominal inflammation. The accompanying fever, however, assumed in the progress of the disease the characteristic features of the second or typhoid species.

M. MacCormic was delivered of a living child on Wednesday morning, after a labour of eighteen hours' duration. She drank some spirits during her labour, and, according to her own statement, was treated roughly by the midwife in the extraction of the placenta. On the following Saturday she was attacked with severe pain and general tenderness in the abdomen; she also had cough, with laboured respiration; hot skin; headach; furred tongue; pulse 100. Bowels had been opened in the morning by medicine. Sixteen ounces of blood were taken from her by the direction of the medical attendant who first saw her, and a mixture of the sulphate of magnesia and tartarized antimony prescribed.

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* More than once the author has had to remark the premature occurrence of syncope in puerperal patients, who, from causes different from the present, had required venesection.

† Under these apparently discouraging circumstances, venesection was performed by the direction of Dr. Gordon, late one of the assistants of the Lying-in-Hospital. To his decisive treatment the recovery of this patient may be fairly attributed.

* This florid redness of the tongue is most frequently symptomatic of that species of fever denominated "intestinal,"—a disease often, it is thought, mistaken for puerperal fever.

It may here also be observed, that considerable similarity exists between puerperal intestinal fever and the infantile remittent fever. Each consists of hepatic derangement, together with an inflammation of the intestinal mucous membrane, caused either by the irritating effects of improper diet, or by neglected constipation of the bowels.

The treatment suitable to those diseases consists in subduing the mucous inflammation by means of general or local bleeding, and in unloading the bowels by the exhibition of mild unirritating mercurial cathartics.

On the following day her medical attendant found the fever lessened, and the pulse somewhat reduced in frequency; still there was abdominal pain, and the bowels had not been acted upon. He prescribed for her a draught of castor oil and turpentine. The next day (Sunday) the author first saw her. Her pulse was then full and bounding, but not by any means hard; tongue still white; bowels freed; pain in the abdomen, which in several places was excessively tender. Inferring from the character of the pulse that general blood-letting would be inexpedient, the application to the abdomen of leeches was advised; but as they could not be procured, a large blister was substituted, and five grains of calomel directed to be administered every second hour.

At the next visit (on Tuesday) her countenance was expressive of the most dejected sinking the author had ever witnessed. She said, however, that she had not any pain whatever except that occasioned by the blister, and by the effects of the medicine. She complained of excessive weakness and exhaustion, to which she attributed her total deprivation of sleep during the preceding night. Her tongue was clean; pulse 130, small, and exceedingly feeble. A draught was prescribed for her, consisting of ten drachms of camphor mixture, a drachm of the aromatic spirit of ammonia, and thirty drops of tincture of opium; to be repeated every second or third hour, and the calomel to be continued. She was permitted to have, in addition to her other drink, beef-tea *ad libitum.*

It is unnecessary to enter into the details of this case any farther than to state, that for upwards of a week she continued to suffer much from exhaustion and want of rest. The same plan of treatment was followed up. On some days, from weakness and want of rest, it was found necessary to repeat frequently the draught. The use of calomel was steadily continued. Her strength was supported by means of beef-tea, and small quantities of wine in arrow root. At the expiration of three weeks she was perfectly convalescent.

It may be considered questionable whether this was an instance of a case changing from the inflammatory to the low species of puerperal abdominal inflammation, or (what indeed would seem more probable) that the symptoms should be regarded as those of irritation and debility, consequent upon the disease itself, and upon the means employed for its removal. The symptoms attendant on the low form of the inflammation, and those which denote irritation and exhaustion, frequently are so similar, as to be barely distinguishable from one another.

A case once occurred within the observation of the author, which, on a cursory view, was set down by an experienced practitioner as an exceedingly well marked case of puerperal fever. On examination, however, the patient was found to be totally free from pain, but very greatly exhausted. She had been treated roughly by the person who attended her, and considerable hemorrhage accompanied the removal of the placenta, which was extracted rudely. As her symptoms appeared to resemble those which often are to be met with in persons who have undergone bodily, as it is termed, operations or accidents, the trial of a stimulating plan of treatment was suggested. Accordingly, she was allowed wine and chicken-broth, and other similar articles, and in a few days was convalescent.

It affords the author much pleasure to find that his views of the treatment of the low species of puerperal abdominal inflammation are in some measure confirmed by the observations of so experienced a surgeon as Mr. Travers. In his treatise on "Constitutional Irritation," a work worthy of the attention of every medical practitioner, the following remarks are to be found:—"There is a case in which, with an unconfined state of the bowels, abdominal after-pain aggravated by pressure augments at no distant period from delivery to a degree sufficient to induce the belief that puerperal inflammation exists. The pulse is accelerated, and, notwithstanding its want of power, and a general expression of feebleness, the practitioner, suspicious of the pain, takes away a full quantity of blood. Not any satisfactory result is obtained; the pulse and the patient sink together, and a fatal coma succeeds. This is a pain not of inflammation but of irritation, and would have a better chance of relief from laudanum than from the lancet."—P. 67.

Although in the foregoing quotation Mr. Travers seems to have erred in setting down exclusively to the account of irritation symptoms which should be considered to denote the existence of that low form of puerperal abdominal inflammation which we have been considering, yet his views corroborate our statement of the injury consequent upon venesection when resorted to in these cases, and the value to be derived from opiates in combination with other remedies.

The four following cases afford examples of the second or low species of puerperal abdominal inflammation.

Case I.—Mary Litton, æt. 30, was delivered, after a natural labour, on the 21st of April. This was her first pregnancy. Her health had, for some time previous to her confinement, been considerably impaired, and she had also suffered considerable mental anxiety. The practitioner who attended her, struck with her miserable appearance, gave directions that he should be instantly summoned in the event of hemorrhage, or of any other change of importance. On visiting her the next morning, he was surprised to learn that in the course of the night there had been considerable hemorrhage, followed by nausea, chilness, and great prostration of strength. She did not complain of any pain, and was merely directed to take some mildly aperient medicine.

On the third day after her delivery the author visited her for the first time. The ghastliness and sunken expression of her countenance were strikingly remarkable; her skin was of a dull sallow colour; the tongue a light brown shade, but without any coating. On inquiring into her ailments, she did not complain of pain but only of weakness and exhaustion, and total deprivation of sleep since her delivery. She had vertigo, unaccompanied, however, by headach; was much distressed by flatus. On making rather strong pressure, some uneasiness was caused in each iliac region. Her bowels had been freed by the medicine. Pulse 130, small, and excessively weak; occasional chills; skin covered with a cold clammy moisture.

Twenty leeches were ordered to be applied to her abdomen, to be succeeded by a blister immediately on their ceasing to bleed; five grains of calomel, with half a grain of opium, to be taken every second hour, and small quantities of wine in arrow-root and whey to be used frequently in the course of the day. The leech bites did not bleed more than usual; but at the next visit on the following day (the fourth after her delivery) the patient appeared to have been much weakened. Pulse scarcely perceptible; extremities cold; clammy moisture diffused generally over the surface of her body; stomach regurgitates without effort all ingesta.

At 10 o'clock P. M. she expired.

Post mortem examination.—Large spots resembling those seen in purpura were scattered over the integuments of the anterior surface of the thorax, and of those parts of the body which were most elevated as the patient lay in bed.

On opening the abdomen the intestines were found much distended with an inodorous gas; but there was not any vascularity observable either in their structure or in the peritonæum of the abdominal parietes; neither was there any effusion of lymph. Towards the lower part of the abdomen, within the peritonæal cavity, about one pint of an oily purulent fluid was found. The reflections of the peritonæum, which form the broad ligaments of the uterus, were completely separated by a transparent gelatinous fluid; and the peritonæal investment of the iliac and psoæ muscles, was detached from those muscles by a similar effusion. The pelvic cellular tissue was distended by the same substance. On making incisions for the purpose of ascertaining the nature of this effusion, it did not escape in a fluid form, but was of the consistency of jelly.

The cellular tissue of the other parts of the body which were examined was quite free from this effusion, or from any morbid appearance.

The ovaries had undergone a most remarkable change; they were much enlarged, and altered in appearance; they were of a dull brown colour, and so much softened, that in taking hold of them for the purpose of removal one was broken in the hand.*

The thorax was examined, and about three ounces of dusky watery fluid were found in the cavity of each pleura.

Case II.—Mary Clark, a widow, was delivered of an apparently healthy illegitimate child on Wednesday. Any particulars relative to her state of health, &c. previous to her confinement could not be ascertained; but it is presumed that, being the victim of seduction, she had suffered at least mental anxiety. On Friday morning, her friends being alarmed at her condition, called on a medical practitioner of considerable experience, who, conceiving that she laboured under puerperal fever, took about twenty ounces of blood from her, and prescribed some cathartic medicine. The author saw her for the first time within a few minutes after venesection had been performed. She had not any abdominal pain or tenderness; but as she appeared not to have perfectly recovered from the effects of venesection, much attention was not paid to her state.

On visiting her a second time, after the lapse of two or three hours, our attention was arrested by the appearance of the blood which had been taken from her, which had formed into a soft coagulum without any vestige of buff. The expression of her countenance strikingly evinced debility and collapse. She lay stretched in bed quite languid, and appeared to use a considerable effort to hold out her hand for the purpose of having the pulse examined. It was 120, full, but exceedingly feeble; her tongue was white and moist; temperature of body natural; abdomen tumid, but not at all either painful or tender; bowels free. She complained solely of weakness, and begged for some porter in the most urgent manner, and seemed to think that nourishment would cure every ailment.

At the next visit, (at 6 P. M. the same day) she was found vomiting; abdomen puffed up; pulse scarcely discernible; extremities cold. She died in a few hours after.

Examination of the body fourteen hours after death.—Abdomen much enlarged; enlargement found to be caused by flatus, and by the distention of the stomach from the liquids she had taken. In the cavity of the peritonæum was found about a quart of fluid, in appearance resembling dirty water. Several portions of the intestinal canal were found softened down and of a dusky colour. But the most strikingly remarkable appearance was an extensive effusion of reddish serum, pervading literally the entire subserous cellular tissue of the abdomen. This fluid completely filled the cells of the pelvic cellular tissue, diffused itself along the spine and muscles in that situation; the layers of the mesentry were also pervaded by it, so as to be thereby separated to a considerable extent. There was not any peritonæal vascularity. On opening the thoracic cavity, in each pleura was found fluid resembling that found in the cavity of the peritonæum.

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* These ovaries are preserved in the Museum of the Medico-Chirurgical School, Park Street, Dublin.

Two days after the death of this individual her child died. It was opened without any specific object, as it had not been visited by any medical practitioner during life. Morbid phenomena similar to those which had been observed in the mother were in miniature equally remarkable and distinct in this case, there being the same subserous effusion, and a fluid in the cavities of the pleura and peritonæum similar to that already described in the case of the mother, with this sole difference, that a few minute particles of lymph were suspended in the fluids in the latter case.*

Case III.—E. Murphy, ætat. 30, third pregnancy. Health much impaired for some months; skin covered with a leprous eruption. She was delivered on Friday, 25th April, at 5 P. M. after a perfectly natural labour; child and placenta being both expelled by the unassisted uterine efforts. Subsequent to delivery there was hemorrhage to some extent, but it was controlled by means of cold applications, and by pressure applied over the uterine tumour.

The following morning she was attacked with rigour and pain in the abdomen, for which she took some castor oil. When visited in the evening, she said that the castor oil had caused both vomiting and purging, but not any remission of the pain. She complained both of exhaustion and pain in the abdomen; and pressure on the surface of that cavity, especially near the umbilicus, produced decided pain. Her countenance was strongly expressive of pain and exhaustion; the pulse was too rapid to be counted, and so feeble as to be with difficulty perceptible; her extremities were cold, and skin covered with a clammy perspiration; tongue had a healthy appearance.

The alvine evacuations and urine were passed involuntarily. Her voice was weak and faltering.

She was directed to take every second hour two table spoonfuls of a mixture composed of seven ounces of the compound infusion of mint, half an ounce of the aromatic spirit of ammonia, and one drachm of the tincture of opium; a pill containing five grains of calomel to be taken every third hour; the abdomen was covered with a blister; heat applied to the extremities; and chicken broth nearly cold was administered to her frequently.

On Sunday the 27th, 9 A. M. she had enjoyed some refreshing sleep during the night; stomach settled, but she is still excessively weak, and the abdominal pain is not at all diminished. The pills and mixture to be continued.—Sunday evening, 10 P. M. The blister has just been removed, and the entire surface of the abdomen is covered with vesications: the pain and tenderness is much diminished, and confined chiefly to the right iliac region; the pulse is of less frequency and stronger; the tongue covered with a brown crust. The pills to be continued.—Monday 28. The pills have this day produced vomiting and purging, which have had the effect of weakening the patient exceedingly. They were therefore discontinued, and the mixture ordered on the 26th substituted in their stead. As soon as those symptoms (vomiting and purging) had ceased, calomel was exhibited as formerly, with the addition of a small quantity of opium to each dose.

From this time no change of importance occurred; the abdominal pain gradually subsided; the pulse diminishing in frequency and increasing in strength, and the tongue becoming clean. The symptoms which continued longest to distress the patient were those of exhaustion, which were relieved by the occasional use of the mint mixture, by a moderate allowance of wine, and by light nutritious diet. This patient had a perfect although a slow convalescence.

Case IV.—E. Shaw, ætat. 34, of a good constitution, was attacked with typhus fever about eight days previous to her accouchement, which took place at the regular period, and without any remarkable occurrence. She had been attended by a young medical gentleman, who kept her on a very low regimen, and prescribed occasionally cathartics.

On the author's visiting her the third morning after her delivery, she presented quite the appearance of collapse. Her eyes were dull and glassy, and her countenance displayed sinking and anxiety. She complained not of pain but of excessive weakness and exhaustion, not having enjoyed any sleep for three nights; her pulse was 130, full, but excessively weak and compressible; the abdomen felt large, but soft, and pressure did not produce the least pain or uneasiness. Her bowels had been freely opened in the morning. Her tongue presented a most remarkable appearance, being of the deepest purple shade as if painted with ink; it was not, however, either dry or loaded: the breasts were quite flaccid.

She was ordered to take every second hour three grains of calomel and two table spoonfuls of a mixture composed of aromatic confection, cinnamon water, and tincture of opium; and to be allowed wine in arrow root *ad libitum.*

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* It is just as probable that children should be the subjects of the low form of the inflammation as of erysipelas,—an occurrence not at all unusual.

Sometime ago the author attended a child, who, when but four days old, was attacked with phlegmonoid erysipelas. There was extensive suppuration of the cellular tissue, extending from the neck to the coccyx. The child recovered under the use of the sulphate of quinine.

The following day there was the greatest alteration in her condition. Her countenance was cheerful; she had slept during the whole of the night, and felt refreshed; the pulse had become less frequent, and gave some resistance to the finger; the tongue had undergone a striking change, not retaining the already described appearance, but being covered with a dense brown crust.

The author did not see this patient again for some weeks. She was then quite recovered. The use of calomel had been continued by the practitioner who first attended her, till ptyalism was induced. Her strength was gradually recruited by a nutritious diet.*

The two following cases may be referred to the third or intermediate species of puerperal abdominal inflammation.

Case I.—Mrs. Campbell was delivered of her first child on Thursday, 6th March, at 9 A. M. The child was born at the expiration of the fourth hour from the commencement of labour, but the placenta was retained for more than an hour, and at length removed by the hand.

On Friday she suffered a good deal from after-pains, but in other respects was quite well. The following day, slight tenderness in the abdomen was perceived on pressure, but it was not looked upon as very serious. She was directed merely to take some purgative medicine.

On Sunday she was exceedingly ill. Much pain in the abdomen was complained of. In every part it was exceedingly tender to the touch, and the uterus was felt much enlarged; pulse frequent, but not hard; tongue furred; countenance languid.

Twenty-four leeches were ordered to be applied to the abdomen, and three grains of calomel to be taken every third hour. This night the pain was so violent, notwithstanding the leech-bites had bled profusely, that a fatal result was anticipated. On Monday a remarkable improvement had taken place; the pulse considerably less frequent; abdominal tenderness and pain much diminished; bowels much affected by the pills. She was ordered a draught of castor oil, with peppermint water and oil of caraways. On Tuesday the pain was still further diminished, and the pulse lessening in frequency. The calomel to be continued in combination with opium. From this time the pain gradually subsided, and the use of calomel continued till ptyalism was produced; the cervical glands became swollen, and her general health was much impaired. She was ordered to the country, and has since returned in perfect health.

Case II.—Mrs. Kelly had slight hemorrhage about one fortnight previous to her accouchement; but in other respects enjoyed good health by means of saline purgatives and by rest. The hemorrhage was checked, and did not occur again till the morning of her delivery, when there was a slight return, which ceased on her being placed in bed. She was delivered on Tuesday, at 5 P. M. The labour was of but short duration, and the placenta was expelled by the unassisted uterine action. The following day she was as well as she could possibly be; was quite free from pain; pulse 80. The next morning she said that she had had several rigours during the night, followed by flushings of heat. When visited, she complained of pain in the abdomen, which she said prevented her from drawing up her legs, or from being able to move at all; the uterus felt large, and was tender to the touch; there was also excessive tenderness all over the left side of the abdomen; skin hot; pulse full and throbbing, but yet weak; tongue covered with a white coating, through which shone red, erect papillæ. Her bowels had been slightly affected by medicine.

She was directed to take eight grains of calomel at once, and after two hours, to take of a mixture of equal parts of turpentine and syrup and water two table-spoonfuls, every second hour, till her bowels were well freed. On Friday there was less heat of skin, and tongue was somewhat cleaner; bowels had been freely acted upon by the medicine; the pulse, however, continued the same, and the abdominal pain and tenderness as yet were unmitigated. Thirty leeches to be applied to the abdomen. The leeches bled freely; and on the next day neither pain or tenderness in the abdomen were complained of; the pulse was down to 100, but very feeble; for the first time complains much of exhaustion. Ordered a draught of castor-oil.

From this time the pulse gradually came

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* The author has been informed by an exceedingly intelligent friend, that this appearance of the tongue is not at all uncommon in cases of puerperal fever.

It may perhaps be imagined that the preceding case, on account of the absence of pain, was not one of puerperal fever. However, as has been elsewhere stated, pain is not to be considered as an invariable or as an essential concomitant of the low species of puerperal abdominal inflammation.

The reader is requested to contrast the preceding case with the following quotation:—

"Neither are those cases where acute pain exists the most to be feared. Whoever has watched the progress of disease in its worst form in the puerperal state, may have observed the approach of death depicted in the countenance of the sufferer, when every answer to the inquiry if there existed any pain has been in purport, 'no, no pain; but so weak:' Nor is this state the mere termination of painful symptoms by mortification described by authors. It does sometimes occur without any pain during its progress, which in this form is usually of short duration."—*Vide* Armstrong on Puerperal Fever, 2d. edit. p. 235.

down to the natural standard. There was not any return of pain, and the patient became quite convalescent.

From the Lancet.

ON HYDROPHOBIA.

By Dr. Ch. Mayer, of Petersburgh.

The author points out two remedies to which the lower classes in Russia, from time immemorial, have attached the most implicit credit as preventatives of rabies; Euphorbia Cyparissias,* and Anchusa Officinalis; they are taken in concentrated decoctions, and are even said to have cured hydrophobia, which, however, is doubted by Dr. Mayer.

As to the sublingual vesicles of Marochetti, he has never seen them, nor could they be discovered in any one of the fifty individuals affected with rabies, who were treated in the hospital of Moscow.

The swallowing of a large quantity of fresh blood has lately been recommended; and Dr. Mayer was informed that, in the southern parts of Russia, the blood of the Anas Clypeata† is so universally employed in hydrophobia, that the bird is bred for this purpose alone. There exist, however, no proofs of the efficacy of this method.

Dr. Mayer relates two cases of hydrophobia, which, from their pathological and therapeutical interest, deserve the attention of our readers.

1. A man, forty years of age, was, in the month of May, 1820, bitten by a cat; the wound healed in four days. On the 19th of March, 1828, he was tormented by a violent venereal desire, which he, however, did not satisfy. On the evening of the same day he became morose, and had all the precursory symptoms of rabies, which first manifested itself on the 25th of May, by a violent shivering and terror at the sight of the holy water, in a church. He was immediately carried into the hospital, and soon exhibited all the symptoms of confirmed hydrophobia. The contact of tepid water caused less shivering and convulsions than that of cold water, and there was no dread of bright surfaces. The cicatrix of the wound was scarified, and covered with a blister; five ounces of blood were taken from the arm; and, according to Magendie's plan, a pint of water, at 101 degrees, was injected into the cephalic vein of the right arm, during which operation the patient had a burning sensation in the left subclavian region: after it, the pulse fell from 90 to 60, and became very small. This injection of warm water was twice repeated in the space of about eight hours, and accompanied by nearly the same symptoms; the vein became, in its whole course, turgid and painful, and the patient complained of a very unpleasant sensation of heaviness in the region of the heart. At midnight a profuse perspiration came on, especially on the chest, without, however, being followed by any alteration in his state. On the 25th of May, the injection was repeated; to the dread of water, a perfect horror of wind, or any movement in the air, succeeded. At noon, he was prevailed upon to take some hot beer, of which he at last, by means of a long tube, succeeded in swallowing three ounces; it was, however, soon brought up again. On the 26th, tepid water was injected a fifth time, but tetanic convulsions supervened, and he died the same day.

On examination, the pia mater was found much infiltrated; the substance of the brain hard and injected; the vessels of the pons Varolii and medulla oblongata, particularly near the origin of the auditory, fascial, pneumogastric glossopharyngeal and hypoglossal nerves, were gorged with blood; the arachnoid of the spinal chord was injected, and contained a serous effusion; the salivary glands were filled with a dark liquid blood.

2. A young man had an ulcer on the left leg, which he suffered his dog to lick frequently; it healed within a short time, but the dog shortly became rabid, and six-and-twenty months afterwards the young man was, without any further assignable cause, attacked with Hydrophobia. In this patient, also, dread of the least movement in the air was observed. He died on the eighth day of the disease.

On examination, the brain and medulla spinalis presented unequivocal signs of inflammation, which appeared to have had its principal seat in the coats of the cerebral nerves. —*Hufeland's Journal.*

From the London Medical Gazette.

HYDROPHOBIA.

To the Editor of the London Medical Gazette.

Sir,—As the following case may throw some additional light on the pathology of hydrophobia, I have sent it you for publication.

I am, Sir,
Your obedient servant,
F. Goodrich.

On Thursday morning, the 25th ult. I was called up about seven o'clock to see a man who I understood was exceedingly ill, and waiting in the surgery very impatiently for my arrival. I found my patient (Mr. Barham) a fine looking old man, about 60, labouring at intervals of about five minutes under strong spasmodic paroxysms, affecting the muscles concerned in breathing and deglutition. There was a wildness and an impatience depicted in his countenance, totally different from any thing I had ever observed in other spasmodic affections. His bowels were open, tongue clean, skin moist, pulse full and a little accelerated. I took away twenty ounces of blood, and prescribed a mixture containing ʒss. of laudanum for a dose every hour until I should see him again. He walked home half a mile from my house (Gloucester Road, Old Brompton), and left me ruminating on the possible cause of so much mischief occurring suddenly in a fine healthy subject. At ten a message was sent, saying that he was much worse, and requesting me to call as soon as possible. He received me tranquilly, and said he was very glad that I had come to see him, for he was very ill. His symptoms were now more distressing than when I first saw him: he looked wildly and suspiciously at every one entering his apartment, and his breathing was accompanied by a short convulsive sobbing. On looking at his medicine I perceived he had taken none, and expressing my surprise, he assured me it was impossible for him to swallow a single drop, as the attempt had been followed by violent spasms, and produced so much distress, that he had desisted. At this period no one had the slightest idea of the origin of his malady. I poured out some medicine into a tea-cup, the very act of which produced much excitement and alarm. My first impression as to the true nature of his disease arose at this period, from the circumstance of his requiring a tea-spoon, with which he endeavoured to take some of the medicine. The attempt produced much excitement and alarm, and after two or three painful efforts at deglutition, with one desperate effort he swallowed a tea-spoonful, threw away the spoon, and begged, unless I wished to destroy him, that he might have nothing more to swallow. I now left his room, and inquired of a by-stander whether any thing particular had occurred to him within the last few weeks. On recollection she said, "About a month since, late at night, a strange dog came into the premises and fought with his own dog; he got out of bed to separate them, and the strange dog bit him in two places, on the left arm and hand; and bit a puppy, which died about a fortnight after in a strange way, which was thought to be some kind of a fit." To ascertain if this occurrence had produced any effect on his mind, while again bleeding him I said, "You have been in the wars, Sir, and had your hand and arm torn; how did it occur?"—"Oh!" said he, carelessly, "that was done by a dog a long time ago, but it healed." The circumstance was never again mentioned to him, and he died in total ignorance of the cause of his malady. The wounds were perfectly cicatrized, and there was not the least action going on indicative of recent absorption. He bore the bleeding pretty quietly: 40℥. were removed, which on cooling presented strong marks of inflammation.—Ordered ♏iv. Acid. Hydrocyan. omni horâ, in a little water.

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* A species of spurge.

† A bird of the duck kind, called the "*shoveller.*"

Twelve o'clock.—With much difficulty he has taken two doses of the acid; pulse full and hard, 110. 30℥. more blood were removed.

Three o'clock.—Has taken two more doses; complains of a dreadful sense of suffocation, and implores that nothing more may be given him. Pulse full, and beating at 120 to 130. Continue the acid.

Eight o'clock.—Pulse full and hard. Has taken in all 24 ♏. of the acid, but so painfully distressing has the deglutition now become, that all attempts at repeating his medicine are discontinued.—V. S. ad ℥xxx.

During the bleeding he looked wildly at the basin, and begged that no more might be spilt (a drop or two had fallen), repeating frequently, in great agitation, as the blood was running, "Take care! take care!"

Between two and three o'clock next morning my assistant (Mr. Davies) visited him. He found him tolerably passive, but observing every movement with intense anxiety. Pulse full and hard, face flushed, eyes denoting cerebral irritation. He had been at times outrageous. On its being intimated that bleeding was again necessary, a paroxysm came on more intense than any preceding,—and with great effort he submitted. As the blood flowed he became more and more alarmed, till at length he got quite unmanageable; he raged violently at his nephew, who was holding the basin, and ordered it peremptorily to be removed. 30 or 40℥. were taken away. It was found necessary to put on the straight waistcoat. About four o'clock Mr. Davies wished him to take some more of his medicine. He said, "I can take no more," and on reaching the bottle to put out a few drops, he became violently agitated, threw himself from side to side, and, as well as the incessant spasmodic sobbings would allow, he begged that not one more drop of any thing might be offered him, and that the bottle might be taken from his sight. He did not become tranquillized until its removal. He lingered on till ten A. M. in the same state, a few minutes before which he insisted on getting up, and walked a short way down his garden, returned, laid down on his bed, and died.

Mr. Frederick Salmon, of Old Broad Street, and Mr. Wilson, of Chelsea, were kind enough to assist me in conducting the post mortem examination. On opening the chest, the heart was free from disease, with rather more water in the pericardium than natural; the lungs were completely gorged with grumous blood, and the pleura adherent on the right side. On removing the cranium, which was remarkably thin, and cutting the substance of the brain, numerous red spots presented themselves in the medullary portion; about a table-spoonful of water in each ventricle; the plexus choroides was turgid; the corpora, striata, thalami, and basis of the brain every where preternaturally injected; the cerebellum, crura cerebri, and cerebelli, in a high state of inflammation. On removing the spinous process of the vertebra, the whole cord was considerably inflamed; and opposite the two last cervical and dorsal vertebræ the cellular substance was studded with dark patches of coagulated blood, the theca vertebralis thickened, and the cord in an active state of inflammation. The larynx and pharynx bore not the slightest vestige of disease. The preparation of the cord is deposited in the museum of the London University.

The post mortem examination of this case tends to prove the correctness of Professor Thompson's theory of the proximate cause and seat of this afflicting malady; and the plate accompanying a case recorded by him, in the 13th volume of the Med. Chir. Society, gives a faithful delineation of the state in which the spinal cord was found in this case.

From the London Medical Gazette.

PATHOLOGICAL ESSAYS ON SOME DISEASES OF THE HEART; *being the Substance of Lectures delivered before the College of Physicians.* By P. Mere Latham, M. D., Physician to St. Bartholomew's Hospital.

ESSAY II.

Morbid Anatomy of the Internal Lining Membrane of the Heart.

The membrane which lines the cavities of the heart is very liable to disease, but not equally so in every part. Where it is thin and transparent, and admits the colour and character of the muscular structure upon which it is spread to be seen through it, it is seldom found diseased; but where it is of a denser texture, either in itself or from an admixture of other structures, whether cellular or fibrous, with its own, it is frequently, and often exclusively diseased. This latter character of a denser texture belongs to it where it forms the tough white circles which surround the apertures of communication between the auricles and ventricles; also where it is reflected upon itself, and forms the loose duplicatures of membrane, which are given off, as it were, from the internal surface of the heart, either at the fibrous circles intermediate between the auricles and ventricles, constituting the tricuspid and the mitral valves, or at the commencement of the pulmonary artery and aorta, constituting the semilunar valves.

It is remarkable how curiously disease is apt to limit itself to the spaces just pointed out. Of the fibrous circle between the auricle and ventricle, of the valves which originate from it, and of the tendinous cords which connect the valves with the carneæ columnæ, there will not be the smallest space free from disease; but the disease will abruptly stop where the tendinous cords cease and the carneæ columnæ begin.

The membrane, however, where it covers the fleshy columns of the heart, is not exempt from the possibility of disease: but when disease actually affects it, it has seldom originated there, but has generally spread from other parts of the same membrane, although (as we have just remarked) it is apt to stop short before it reaches this.

Of the two sides of the heart, the membrane which lines the left is unquestionably the more liable to disease. But my own observation would never have led me to conclude that the membrane of the right side was so far exempt as it is commonly thought to be. Speaking from the best recollection I have of the specimens which have fallen under my examination, I should say that, in one-third of the cases where disease has been found on the left side, it has existed on the right side also, and been essentially of the same character. But there has been a remarkable difference in the extent to which it has proceeded on each side respectively: while on the left it has gone so far as to be the undoubted cause of death, on the right, although essentially of the same character, it has been only just beginning.

It very seldom happens that disease appertains to the lining of the right cavities of the heart exclusively; and, where it affects both, the disease in the right cavities is very seldom found in advance of that in the left.

It should seem, indeed, according to the ordinary course of things, that disease does not begin in the lining of the right cavities of the heart, until it has already advanced to an extreme degree in the left.

The internal lining of the heart, as well as of the arteries, is often found to have become of a red colour. This redness, so well known to all who are accustomed to examine dead bodies, used to be regarded as a mere stain imparted to it by the colouring matter of the blood after death. Yet a due consideration of various circumstances connected with it will hardly warrant this conclusion.

It has been found whether the heart or artery be full or empty of blood; and if blood be present it has been found, whether it is liquid or clotted; and if it be clotted, whether it does or does not retain its colouring matter. External temperature, and length of time between the death of the patient and the dissection of his body, have not made any difference in the frequency with which this peculiar appearance occurs. Lastly, no artificial methods, such as washing of any kind, can get rid of it; nor will enclosing blood within an artery for any period produce it.* This simple redness is sometimes seen universally in both sides of the heart and throughout the whole arterial system, and sometimes in patches only, of greater or less extent, whether in the arteries or in the heart.

Now, when all these circumstances are considered, although in some instances it may be a mere stain imparted by the colouring matter of the blood after death, it is plainly impossible that it should be of that nature in any large proportion of the numerous instances in which it is found.

But if the appearance in question implies (as I believe it generally does) a morbid condition, of what kind is that condition? There are the same objections to considering mere redness as equivalent to inflammation here as in the pericardium, or in any other part of the body: here, as elsewhere, in one case it may be the condition out of which inflammation is to spring; while in another it may not be destined to give origin to any change in the structure of the part beyond itself, and may itself constitute the whole disease.

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* Andral, vol. iii. p. 411.

It appears to me, that this mere redness of the internal lining of the heart and arteries has become a matter of undue perplexity to pathologists, because they have laboured to infer from it more than the simple fact itself will authorize. All I wish to establish concerning it is, first, that it is not always (probably very seldom) a mere stain imparted by the colouring matter of the blood after death; secondly, that it alone does not constitute inflammation.

It may not be improper to mention the circumstances under which it has occurred to myself to find it. I have met with it most frequently, and to the largest extent, in subjects whose previous disease has produced a constant and habitual impediment to the transmission of blood through the heart and through the lungs, and that impediment has gone on increasing to the hour of their death; also in those, whatever might have been the nature of their disease, whose dissolution (I mean the actual process of dying) has been tardy and agonizing, and marked by great labour of respiration; in the apoplectic, for example, in whom, after sense and consciousness were extinct, life had been protracted, with stertorous breathing, for many days.

In such subjects the countenance, the lips, and the whole skin, give evidence during life of blood pushed beyond the natural sphere of the circulation, and detained in the extreme blood-vessels. Hence it is obvious that the causes which have loaded and distended the capillaries in every part of the body have had a like influence upon the vasa vasorum.

I do not mean to say that I never met with this peculiar condition of the heart and arteries under other circumstances, or that other causes may not produce it; but that I am not acquainted with it under any other with which, from frequent coincidence, it has seemed to have a natural connexion, or which have afforded a reasonable explanation of the phenomenon.

This condition of the heart and arteries, considered as inflammation, has been assigned by some as the cause of fevers of the more malignant kind. The frequency with which it has been found in some particular epidemic, must have led to the conclusion. But, however this may be, from my own observation, not restricting myself to the fever of any particular season, but taking into account all complaints called febrile, and belonging to all seasons, also from the result of inquiry among medical men who have had large acquaintance with morbid dissections, and from the experience of those who have made this particular point a subject of investigation (Laënnec and Andral) I venture to conclude that it has no essential connexion with fevers of any kind, either as cause or as effect.

On some occasions the internal membrane of the heart and arteries, wherever it exhibits the appearance described, will allow itself to be peeled off from the subjacent structure with the least possible force; this facility of separation ceasing entirely beyond the boundary of the red tinge.

Here unquestionably is further evidence of a diseased condition: but of what nature? Most pathologists would consider this to be of the nature of inflammation—and I believe justly.

There is indeed much difficulty in pronouncing upon the nature of minuter changes of structure detected in the internal parts of the body after death. We are obliged to arrive at conclusions by help of analogies drawn from morbid processes, which we have watched in their progress during life, upon the external surfaces; for during life we have the functions and sensibilities of the part to aid us in forming a right judgment concerning its disease. When, during life, one tissue is separated from another, as the periosteum from the bone, or the cuticle from the skin, or the mutual cohesion between different tissues is sensibly weakened, we find it to be owing to the intervention of serous fluid which does not belong to their healthy state; and this, together with increased vascularity, or redness and heat, and pain, is enough to bespeak the presence of inflammation. All these conditions cannot remain after death. Hence, if we desire to form positive opinions concerning much which is unfolded by dissection, we must supply the defect by analogy. Thus, whenever, in any part of the heart or arteries, the cohesion between the internal membrane and the subjacent structure is manifestly lessened, and the membrane is unusually red at that part, we may regard these appearances as the vestiges of inflammation, without thinking that we go too far in so regarding them.

The internal lining of the heart and arteries is often found red solely in the neighbourhood of ulcerated spaces, when there can be no doubt concerning the existence of inflammatory action.

But the internal lining of the heart and arteries gives the most unequivocal evidence of its inflammation when it is found of a deep red colour, with coagulable lymph adhering to its surface. This condition is represented, as it was found in the aorta, in one of the beautiful plates, illustrative of the diseases of arteries, by Mr. Hodgson.* And the same condition, in the heart, I have seen in a preparation of Dr. Farre's, where lymph is deposited upon the circular zone, which forms the aperture of communication between the left auricle and ventricle. These appearances denote the most acute inflammation: they are, I suspect, very rarely met with. In the few instances in which I have heard of them, they have been found where death has taken place after short and severe suffering, and with symptoms which characterize inflammation.

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* Pl. 1, fig. 5.

But the specimens of disease most frequently met with in the internal lining of the heart, consist in an entire change of its natural structure, and in the formation of new products upon it or within it. Many of these, from the analogy of morbid actions in other parts of the body, must be considered to result from chronic inflammation.

In any of those situations which have been stated as especially liable to disease, the membrane will become thick, tough, inelastic, puckered and shrivelled; and cartilage or gristle, and bone, will enter into its structure; excrescences will sprout out from it, resembling warts and fungus; and it will become ruptured and ulcerated.

Cartilaginous depositions are often found beneath the membrane where it is single; or between its folds where it is double, in the situation of the valves; and thus they seem rather to belong to some structure contiguous to the membrane than to the membrane itself. Such depositions will proceed to a considerable extent, while the membrane still remains free from disease. From a valve, which has been thick, opaque, and cartilaginous, I have seen the membrane separated on both sides, and transparent; the opaque and cartilaginous matter being left behind. Where, in cartilaginous depositions, the lining of the heart has become puckered and uneven on its surface, and the valves shortened and altered in their shape, the membrane itself participates in the disease, and is generally incapable of being separated from the subjacent structure. But great thickening may take place in the situation of the valves, from deposition of cartilage, without any unevenness of their surface or alteration of their shape; and under these circumstances the membrane itself you may expect to find hitherto exempt from disease.

Osseous depositions are always, I believe, originally formed beneath, or exterior to, the membrane, both in the heart and in the arteries. There are two circumstances especially worthy of remark in this process of ossification: sometimes it is a pure and unmixed process: bone is formed, and nothing else. It is deposited in minute granules, or little brittle scales, or in plates of a larger size; and the intermediate spaces, whether in the heart or arteries, preserve their natural and healthy appearance. At first, these granules or scales, or plates of pure bone, are covered by a delicate pellicle, which is in fact the internal membrane of the heart or artery, separating them from the immediate contact of the circulating blood. But in process of time, as they increase in size, and become rough and unequal on their surface, they cause a rupture of the internal membrane, and have now nothing to separate them from the immediate contact of the blood.

Sometimes ossification is a mixed process, or rather, I suspect, the result of another morbid process preceding it. With the cartilaginous depositions already described there is an admixture of bone. The quantity of bone generally bears a very small proportion to the cartilage when they both occur together, as if the bone proceeded from the cartilage, and not the cartilage from the bone. It is sometimes seen growing from the surface of the cartilage, and is sometimes deposited in its substance, and only detected by the knife.

Simple ossification, as it occurs in the heart and arteries, has been classed among the natural changes which the parts in question are liable to undergo after a certain period of life. Of persons above the age of sixty years the proportion is that of seven in ten according to Bichat, in which ossification is discovered in some part of the arterial system. It very rarely happens that simple ossification is found before the period of old age: still it is difficult not to regard it as a morbid process.

But ossification, when it is a mixed process, is unquestionably the result of disease. Is is met with at all periods of life; and probably constitutes one of the terminations of inflammation. The kind of morbid structures with which the bone is united leads to this belief.

Fungous, and wart-like excrescences, are found in all those parts of the internal lining of the heart, which have been already mentioned as most subject to disease. They seem to be the result of a new morbid action set up in parts already disorganized; for I have not met with them where the membrane has been otherwise healthy, but only where it has been thickened or cartilaginous, or ossified, ruptured, or ulcerated. They grow either from the surface of the membrane, or from its ruptured or ulcerated edges, and are always in immediate contact with the circulating blood.

According to my observation, when a fungous or warty excrescence has grown from the ruptured edges of the membrane, it has been from them exclusively, and from no other part of the lining of the same heart. And as rupture of the membrane seldom occurs in more than one situation at a time, the heart of the same individual seldom presents more than one excrescence of this kind: and as the aortic valves are the parts most liable to rupture, it is there that this single excrescence is most frequently found; not that rupture may not take place elsewhere. I once saw a single *chorda tendinea* ruptured; and a single fungous excrescence of considerable size hanging from it into the cavity of the left ventricle.

Now, this morbid growth is evidently connected with the lacerated state of the membrane in the conditions of its production, whereby it is limited to a small space.

It is probable that the membrane is first ruptured; that its lacerated edges inflame, and then throw out unhealthy lymph, or unhealthy granulations, in the shape of these fungous or wart-like excrescences. When they have sprung from a ruptured membrane, they have, in the specimens which I have examined, been larger than when they have arisen under other conditions.

But when such excrescences grow from the surface of the membrane which is thickened and cartilaginous only, but not lacerated, they are more apt to occur in many parts of it at the same time. I have seen the valvular apparatus between the auricles and ventricles on both sides, as well as the aortic valves of the same heart, studded with them. They were all about the size of hemp seeds: they adhered to the membrane with different degrees of tenacity, and wherever they were capable of being detached, they left a rough surface. The lining of the arteries has been known to give origin to morbid growths of the same kind, which have obstructed the passage of blood, and given occasion to the formation of a coagulum, which has obliterated the pulse.

The internal lining of the heart is liable to ulceration, not as a common consequence of simple inflammation, but as an occasional consequence of some of those diseased conditions which have been described. It is most commonly found around scales and spiculæ of bone, and under such circumstances as to leave no doubt that the bone itself has furnished the source of irritation from which it springs. The ulceration commences from the very border of the bony scale, as if it was a process of nature for detaching it, and to a considerable distance around the ulceration the membrane is reddened, and easily detached from the subjacent structure. Where there are several distinct scales of bone, it is not uncommon to find a circle of ulceration around each of them.

Ulceration is also met with where there is a thickened and cartilaginous state of the membrane without ossification. Under these circumstances, as far as I know, it affects no definite form. It is often a very destructive process of disease, obliterating large portions of the valvular structure, and penetrating deep into the muscular substance of the heart.

Rupture of the internal lining of the heart is not easily distinguished from ulceration. In collections of morbid anatomy, many unquestionable specimens of ulceration are described as specimens of rupture. Rupture must always be looked for in the valvular apparatus of the heart, *i. e.* in the valves themselves, or in the chordæ tendineæ which are their appendages. It is probably incapable of taking place elsewhere, except as a part of a rupture, which involves the whole organ.

That solution of continuity which is evidently without loss of substance; that of which the separated edges when they are brought together are completely adapted to each other; also that which is unaccompanied by any thickening or other morbid condition of the valve; the solution of continuity which is found under these circumstances, may safely be considered to proceed from rupture, and not from ulceration.*

But it is probable that these characteristic conditions do not long remain after the occurrence of the rupture. Complete specimens of them are very rare; but specimens are numerous where the solution of continuity, by its form and direction, bespeaks rupture, while its rounded edges and the general thickening of the valve denote ulceration. These, it may be fairly conjectured, do in fact exhibit a compound of both. The membrane was originally ruptured, but disease has subsequently arisen and obscured the character of the mechanical injury.

The greater number of those concretions, which were regarded by the older anatomists as polypi of the heart, were unquestionably proportions of mere blood, which had undergone coagulation after death. The blood remaining in the heart after death discharges itself of its colouring matter as it coagulates, and, giving off processes between the muscular fasciculi, assumes a shape which has suggested the name of polypus.

I have often found (I presume, therefore, that it is not an uncommon occurrence) coagula of an irregularly laminated texture having their colouring matter not entirely discharged, but unequally distributed through them, which have been most intimately adherent to some part of the lining of the heart. Of these some have admitted of separation, while the surface of the membrane and the surface of the clot were left rough at the place of contact, and others were incapable of being detached without the membrane being detached along with them. The appendix of the left auricle is a situation in which they are apt to occur, and they are generally accompanied by an extensively diseased condition of the lining membrane. These coagula, from their laminated texture, and from the intimacy of their union with the internal lining, seem to be essentially different from polypi of the heart. They appear to be connected with a process of disease in the membrane, and to have obtained their union with it long before the death of the patient.

I once saw two separate tumours, entirely resembling what are called polypi, between the carneæ columnæ of the left ventricle, and firmly adherent to the heart; and in the centre of each a distinct formation of pus. The heart was otherwise healthy.

There are three preparations in the museum of the College of Surgeons, put up by Mr. Hunter himself, and noted by him as exhibiting "tumours on the inner surface of the right ventricle, seemingly composed of layers of coagulable lymph one upon another, the central part having the appearance of glairy mucus." This last appearance (the mucus) no longer remains in any of the three, but in its stead there is a cavity. The tumours which I have mentioned as originally containing in their centre a distinct formation of pus, also now present in its stead a cavity. The preparation preserved at St. Bartholomew's, and those at the College of Surgeons, are probably specimens of the same disease.

Here what in the recent parts seemed to be pus or glairy mucus, and the cavities still remaining in the preparations, must suggest the suspicion, that these tumours, whether they grew from the surface or were deposited from the blood, had become organized, and afterwards inflamed; and that the inflammation had terminated in the formation of an abscess.

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* Dr. Baillie's plate.

ESSAY III.

Morbid Anatomy of the Muscular Substance of the Heart.

Dr. Baillie, speaking of inflammation of the substance of the heart, says, "When the pericardium covering its surface is inflamed, the inflammation sometimes passes a little way into the substance of the heart:" and then he gives these as the characteristic marks of such inflammation—that "it (the substance of the heart) becomes much more crowded with small vessels than in its natural state, and there are sometimes to be seen a few spots of extravasated blood." Now, this undue vascularity, and these few extravasated spots, where inflammation unquestionably belongs to a contiguous structure, may be deemed sufficient evidence of the muscular substance of the heart participating, or beginning to participate, in the same disease; but, absolutely and exclusively, it may be doubted whether more is not required to give a certain assurance of its inflammation. Here, as elsewhere, we must look for some of the proper products of inflammation; or for some of the permanent changes of texture which naturally result from it, according to its several modes of disorganizing.

It is a very rare event to find pus among the products of inflammation of the substance of the heart: yet this event has occurred twice to my observation. In one instance the whole heart was deeply tinged with dark-coloured blood, and its substance softened; and here and there, upon the section of both ventricles, innumerable small points of pus oozed from among the muscular fibres. This was the result of a most rapid and acute inflammation, in which death took place after an illness of only two days. In another instance, after death, which terminated an illness of long duration and characterized by symptoms referrible to the heart, a distinct abscess was found in the substance of the left ventricle, closed externally by a portion of adherent pericardium, and connected internally with an ossified portion of the lining membrane.

This diffusion of pus, or rather its formation in innumerable separate points, throughout the muscular structure of the heart, by a rapid and acute inflammation, is a singular occurrence. No such case has ever fallen within the knowledge of the most experienced in morbid anatomy, of whom I have made inquiry; neither has any such (as far as I can learn) been recorded in books.*

A single collection of pus,† constituting an ulcer or abscess of the heart, and resulting from chronic inflammation, is also a rare occurrence, yet not so rare but that a specimen of it may be found in most collections of morbid anatomy.*

But independent of the formation of pus, softening and attenuation, as well as induration and thickening of the muscular substance of the heart, do, in different cases, according to the circumstances under which they are found, both bespeak inflammation.

Together with the unequivocal evidence of inflammation in other parts of the heart, the muscular fibres have at the same time been found very soft and loose, and easily torn; and with this looseness of texture the heart has sometimes presented a dark and almost black appearance, and sometimes it has been almost blanched and colourless. The deep dark tinge shows that the muscular substance is unnaturally loaded with blood; whereas the absence of colour shows that it is destitute of its natural quantity. These different appearances do, in fact, belong to different stages of the same disease. The first indicates inflammation of the muscular substance in its present state of activity; the second, an irreparable disorganization of the muscular substance left by inflammation, when it has been unarrested in its earliest stages. The first is found when death takes place *in a few days after* the accession of the disease; the second, when the patient survives the first attack, and dies at a remoter period.

The inflammation, which produces softening and attenuation of the muscular structure, is, I believe, always of an acute kind.

But induration and thickening of the muscular substance of the heart is also the result of inflammation. This must be distinguished from hypertrophy, or mere augmentation of bulk, of which we shall speak hereafter. In this induration, which proceeds from inflammation, there is, besides increase of bulk and firmness, a manifest alteration of texture. A substance† is produced offering a peculiar resistance to the knife. This condition unquestionably must result from an interstitial deposition of new matter among the muscular fibres. From concomitant circumstances, as well as from its own character, I presume that it proceeds from chronic, not from acute inflammation. I confess that I never saw a specimen of what I now allude to. It is described with some minuteness by Corvisart; but it may be presumed to be very rare, since Laënnec admits that it never fell under his observation.

These opposite states of softening and attenuation in one case, and induration and thickening in another, are known to those conversant with morbid dissection as the evidences of inflammation in other parts of the body besides the muscular substance of the heart.

But there are changes of structure incident to the muscular substance of the heart which are independent upon inflammation, or, perhaps, upon any process which can properly be called morbid. They consist of simple augmentation and simple diminution of bulk and consistence. This simple augmentation of bulk and consistence is owing exclusively to a more ample development of natural structure. The muscular substance is more red than natural, its carneæ columnæ are increased in thickness, and its proper fibrous texture is every where more strikingly manifest; but there is no interstitial deposition of matter new in its kind. It has been called hypertrophia of the heart, and the name conveys a tolerably just idea of its actual condition.

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* It occurs sometimes in the uterus.

† Memoir de l'Acad. des Sciences. Morand, 1732. Morgagni, Epist. 27.

* Andral, v. 3, 466; Hodgson, plate 1, fig. 7.

† Corvisart, cap. 4, sect. 1.

The simple diminution of bulk and consistence is a condition the exact opposite of the former. The muscular substance is less red than natural; its proper fibrous texture less distinguishable; but there is still the appearance of muscle shrunk and withered, as if from an insufficient supply of nourishment. It may be called atrophia of the heart.

Conjoined with augmentation, as well as with diminution of strength and bulk in the walls of the heart, there is almost always an increase in the capacity of its cavities; and in whichsoever part of the heart the walls are thus augmented or diminished, it is the cavity appertaining to the same part which undergoes the increase of capacity. Hence it appears either that one of these conditions is the immediate and necessary consequence of the other, or that both are the simultaneous effects of the same causes.

Dilatation of any cavity of the heart, with thickening of its walls, is called *active dilatation;* and dilatation of any cavity, with attenuation, is called *passive.*

Active dilatation may appertain to every cavity of the heart simultaneously; and so may passive dilatation. But such occurrences are very rare: for one cavity being naturally more liable to this species of dilatation, and another to that, it most frequently happens that specimens of both conditions are found in the different cavities of the same heart.

The left ventricle is much more liable to active dilatation than the right; and the right ventricle more so than either of the auricles; and of the auricles unquestionably the left. Upon the whole, perhaps, the fact may be truly stated thus—that the left ventricle commonly gains an increase of bulk and strength, with an increase of capacity; and that all the other cavities, at the time that they expand, are rather apt to become attenuated.

It sometimes (though rarely) happens, that, with an increase of strength and bulk in its muscular structure, the left ventricle suffers a diminution of capacity in its cavity. In a case reported by Laënnec, the left ventricle was an inch and a half thick at its broadest, and an inch thick at its thinnest part; and yet its cavity was only capable of containing an unblanched almond. I have seen the same condition in a less degree.—(*Laënnec,* vol. ii. 698.)

The circumstances under which these opposite conditions, this hypertrophy and atrophy of the heart, with the enlargement or diminution of its cavities, arise, must be explained hereafter. At present I would only remark that they are often found conjoined with actual disease in other structures of the heart, such as osseous or cartilaginous thickening of internal lining, adhesion of the pericardium, and ossification of the coronary arteries, to which they owe their origin; and, moreover, that they are often found where the heart is otherwise perfectly sound in texture, and where their cause must be sought in other parts of the body.

The heart is liable to undergo a simple dilatation of its cavities without either thickening or attenuation of its muscular substance. This simple dilatation is sometimes of the whole organ, sometimes of one side, and sometimes only of one auricle or ventricle. When it is of one cavity only, it may be complicated with active or passive dilatation of another, or of all the rest.

There is reason to believe that the heart sometimes undergoes a temporary dilatation, and again returns to its natural capacity; but that the dilatation can only subsist for a short time without becoming permanent.

The power of thus enlarging its cavities, and restoring them to their natural condition, belongs more especially to the right side of the heart.

A large accumulation of fat is sometimes met with about the heart.

The healthy heart is always more or less marked upon its external surface with streaks of white, and this appearance results from the deposition of fat in the cellular texture, which unites the serous covering with the subjacent muscular structure. It is found principally where the venæ cavæ unite to form the right auricle; also at the base of the ventricles, and along the line which marks the boundary between the two, and around the origin of the great blood-vessels as they emerge from the heart. But when fat is deposited in more than these situations, and in more than the natural quantity, it is not so much added to the healthy substance of the heart, as existing at its expense and detriment, and the muscular structure is that which especially suffers. The fibre of the fat heart is pale and wasted, like that of a paralytic limb.—*Mus. of the Coll. of Surg.* 327.

A rupture of the heart is sometimes met with; but all the cases of reputed rupture are not such in reality. An aperture in the walls of the heart, through which blood escapes into the cavity of the pericardium, may result from ulceration as well as from rupture, or from a mixed process of one and the other; but whatever be the precise nature of the process by which this perforation of the heart is effected, it is undoubtedly of rare occurrence.

Where it has been found, there has generally been at the same time some peculiar condition of the organ, which might be presumed favourable to its production. Its muscular substance has been so soft and loose of texture, that it could be pierced through by the weight of a probe;* or it has been converted into, or greatly intermixed with fat;† or its muscular fibres have been absolutely defective, leaving a certain transparent space, where the internal lining and the pericardium have been in contact, and served to maintain the completeness of the cavity, until the rupture has taken place.‡

Not that a rupture has not been found where the texture of the parts has seemed to offer no natural facilities to its occurrence—as in the case related by Harvey himself, who found a lacerated aperture in the left ventricle, capable of admitting his finger, through which blood had escaped into the pericardium, the walls of the ventricle being increased in thickness and strength, while an obstacle existed at the entrance of the aorta.§ Here the heart must have torn itself asunder by the simple violence of its contraction, in contending against the impediment to the egress of blood from its cavity. This is an effect which would hardly be thought capable of being thus produced; but I can well believe it possible after having seen one of the recti muscles of the abdomen literally torn in twain, in a man who died of tetanus.‖

From the Edinburgh Medical and Surgical Journal.

THOUGHTS ON CONTAGION, *and its Effects on the Organs of the Living Body.*

By Thomas Masterman Winterbottom, M.D.

(Concluded from p. 24.)

If typhus fever be occasioned by inflammation of the brain or its membranes, it is scarcely to be conceived possible how a single patient could escape the treatment generally followed a few years ago, of exhibiting bark and port-wine so profusely, that many patients were kept for days in a state bordering upon intoxication. Though this may be said to be the extreme of the practice, if the fever had been so acute a disease as *encephalitis,** can we suppose it possible that without any evacuation, scarcely even of the bowels, under such stimulating treatment, it could be protracted to fourteen or twenty-one days, and even then, not unfrequently, terminate in health. Moreover, the appearances on dissection are extremely various in typhus. In many instances, no trace of injury is observed in parts to which, during life, the greatest pain is referred, so that it is impossible to foretell, with any degree of certainty, any one organic lesion, previous to inspection.† The intelligent Friedereich,‡ justly remarks, that typhus often arises after internal inflammations, treated by copious blood-lettings, and also after long-continued suppurating wounds, —circumstances unfavourable to the supposition of a sthenic diathesis. The first symptoms of typhus sometimes appear like an affection of the liver, with increased biliary secretion, often removed by an emetic; or of the lungs, or of some abdominal viscus; and the affection of the head supervenes only at a late period of the disease. Besides, in cases of violent delirium and long-continued stupefaction, no morbid change has visibly occurred in the brain. In the dissections related by Professor Friedereich, neither inflammation nor congestion was observed; and, under very opposite modes of treatment, the disease was often protracted, or terminated in perfect recovery. He further remarks, that it was rare for the appearances on dissection to correspond with the violence or duration of the cerebral affection, from which he infers, that the appearances of inflammation, when they present themselves, are not essential, but accidental. This opinion is corroborated by comparing the appearances of the brain in other diseases with those in typhus. In such cases he found, where there had been no affection of the head, during life, as great, or even greater congestions of blood, effusions of coagulable lymph, and serum, as in those who died of typhus. From these comparisons it may be inferred, that in many instances the morbid appearances in the head are produced in the last moments of life; that typhus has these appearances in common with other diseases; and hence that no accurate conclusion can be drawn respecting inflammation of the brain, whether it is to be considered as an essential or accidental appearance in typhus.§

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* Morgagni, Epist. xxvii. 7.

† Ibid. 2. ‡ Ibid. 3.

§ Harvey, Exercit. altera.

‖ In turning over the Memoirs of the Royal Academy of Sciences, I find two cases of rupture of the heart, reported by M. Morand. They both occurred in the year 1730; and, strange to say, one was that of a Dutchess of Brunswick, who was of the same family as George II. who also died of a ruptured heart. In the one, that of the Dutchess, there was a manifest ulceration through the walls of the right ventricle, its structure being otherwise unimpaired; in the other, where the aperture was in the left ventricle, there was probably a simple rupture, for the flesh of the heart was so soft that the point of a probe would pass through it wherever it was rested. (Mem. de l'Acad. Roy. des Sciences, Ann. 1732.)

* Hildenbrand, Ratio Medendi in Schola Pract. Vindobonensi, pars ii. p. 94.

† Schneider, in his valuable work on typhus, remarks, that the dissection of typhus cases often discovers considerable inflammation and even gangrene in the viscera, though not indicated during life by any local pain which could excite such a suspicion. These inflammations, he adds, do not occasion typhus, but are produced by it.

‡ Entzündung d. endem. charakter im Würzburg.

§ See Thuessink on the Contagious Fever at Groningen, p. 36.

In seven cases of dissections of diseases different from typhus, in which scarcely any affection of the head or delirium was observed, the appearances of turgescence and effusion in the brain were much greater than in patients who had died of typhus.

The experience of Professor Horn, who makes some judicious diagnostic remarks upon inflammation of the brain and typhus,[*] agrees with the assertion of Peter Frank, that inflammation of the brain from internal causes is extremely rare, and that the symptoms indicating it are extremely fallacious.[†] "Hoc viscus (cerebrum) et quibus involutum hæret, velamenta, ob causas quidem *externas*, frequentem; sed ob *internas*, quod miremur, inflammationem aliis fere rariorem subeunt." Professor Hufeland makes the important remark, that after the most violent injuries of the head, accompanied with every symptom of inflammation, not a trace of it is discovered after death, whilst in other cases of injuries, where during life no symptom of inflammation of the brain occurred, yet this is found to have existed previous to death.[‡]

According to Burdach[§] "the difficulty and uncertainty of the diagnosis and prognosis constitute a peculiarity of diseases of the brain, and indeed their existence is often difficult to discover. As the brain itself is concealed, its diseases also, during the period of their evolution, are almost always obscure." (Sect. 510.) The *ratio symptomatum* also, in both diseases, is very different. The delirium in *encephalitis* is an early symptom, but in typhus it frequently does not appear until after the first week. Moreover, in the dissection of typhus cases the learned professor could detect no remarkable appearances in the brain or its membranes, though most of the patients were young, and previously healthy. In many instances the appearance of the brain was such as might have been looked for in a diseased state of the lungs, or any other complaint, having nothing in common with typhus.[‖] Schneider, detailing nearly the same results, observes that dissections in such cases have been too negligently[¶] and too partially conducted, because, whilst searching for the cause of disease in the brain, and where of course it *must* be found, the state of the abdominal and thoracic viscera, and of the spinal marrow, are quite overlooked. But the most careful examination, he adds, of nervous diseases, especially of typhus, are quite fruitless, for the most accurate scrutiny shows little or no sensible change of structure. Joerg also, found neither inflammation nor effusion from the membranes, or in the cavities of the brain, which was rather in a state of collapse,—but a great degree of softness in the large nervous branches, particularly in the *medulla spinalis.*[*]

One more authority to prove that typhus does not depend on, or is usually connected with inflammation of the brain, I add from Pommer,[†] staff-surgeon in the army of Wurtemburg, whose dissections appear to have been conducted with uncommon accuracy, unbiased by theory, and with no other motive than an ardent curiosity to discover those morbid changes which probably occasioned death. The results of these dissections prove, that neither inflammation of the brain or nerves is met with in the generality of cases; and in those rare instances in which it occurs, it does not in the least differ from what is observed in other diseases, and seems rather to be effects than causes.[‡] But though the brain and nerves, notwithstanding the apparent violence of their affection, were found on dissection to be free from any visible alteration, yet the contents of the thorax and abdomen were always observed to be in a morbid state, and required, usually, a greater degree of attention than the cerebral and nervous affections. The most frequent changes observed, occurred in the ileum, stomach, lungs, and bronchiæ; yet these organs, during the course of the fever, frequently showed no disturbance in their functions, nor were they accompanied with pain, though on examination they were found to be materially injured. This[§] degree of insensibility appears to be a characteristic mark of typhus. In very rare instances was there found an alteration in the substance of the brain, but even then it was always attended with the usual appearances in the thorax and abdomen, and seemed to have no influence upon the common course of the disease. One viscus being found more affected than another, had produced during life no corresponding change in the succession of symptoms; so that whether the brain or heart, a rare occurrence, was found to suffer, the disease proceeded in the same course, as if the other viscera of the thorax and abdomen had undergone the changes peculiar to typhus, namely, being inflamed, softened, ulcerated, partially adhering, or even gangrenous. The *extispicia* in typhus, show the same results as in plague and yellow fever, and in some other acute nervous diseases, such as hydrophobia and tetanus, besides having many symptoms in common with each other. *Tetanus traumaticus*, in particular, occurs under circumstances where, without a wound, typhus would frequently show itself; therefore, hydrophobia and tetanus, in a natural order of diseases, ought to be ranked in the family of typhus.[*]

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[*] Horn's Archiv. 1812. Sept. Octob. 296.

[†] De curand. Hom. Morbis, ii. 42. Ueber die Kriegspest.

[‡] Frank, de cur. Hom. Morbis, i. 109.

[§] Vom Baust u. Leben des Gehirns.

[‖] Schneider Med. Pract. Adversarien 3. lieferung,—contains the results of various examinations of the brain.

[¶] For some judicious cautions on this subject, see Vetter Aphorismen aus der Patholog. Anatomie, p. 24.

[*] The dissections recorded by Reuss Wesen d. Exantheme, i. 152, *et seq.* are deserving of attention.

[†] Beitrage zur naheren Kenntniss des sporad. Typhus. Why authors distinguish between contagious and sporadic typhus is not very evident. Both diseases are essentially alike in their train of symptoms, their course, and termination. The only difference which can be alleged is, that, in the contagious typhus, we fancy we can trace the communication of contagion, but in the sporadic we are ignorant of its source. Berends Vorlesungen ueber Pr. A. W. von Sundelin, ii. p. 132, Note. Naumann Handbuch d. allg. Semiotik, p. 290.

[‡] See Speranza, dell' abuso del salasso, in Annali di Medicina. Settemb. 1818.

[§] Utut varia sint symptomata, princeps tamen est et palmarium stupor, inertia et segnities omnium functionum. Sprengel, Institutiones Medicæ, Vol. iv. p. 115.

Furthermore, those nervous symptoms observed during life, and the appearances after death, bear a considerable analogy to the softening of the stomach, and the perforation of the intestines in children, described by Jaeger, and to the effects produced by corrosive and narcotic substances taken internally, and the specific animal poisons of murrain, (milzbrand,) hydrophobia, &c. The proximate cause of typhus, therefore, seems with more probability to depend upon those obscure inflammations of the thoracic or abdominal viscera, which frequently escape notice, than upon inflammation of the brain.

To the concurring testimony of many experienced practitioners respecting too great officiousness in our mode of practice, more especially in fever, it is unnecessary to add my own opinion; but the words of a venerable ornament to the profession are too strong to be omitted. Speaking of the *indifferent diseases* (indifferenten Krankheiten) which so wonderfully favour new systems; or, in other words, diseases which are not mortal, and in which it is quite indifferent whether this or that mode of practice be used, Hufeland concludes with the following remarks: "After thirty years' practice, I am now fully convinced, that of all the patients whom I treat, two-thirds would recover without my assistance or that of medicine, and even under the most opposite modes of treatment. The remaining third I divide again into three parts, of which two-thirds would remain alive without my care. Art only enables them to pass through the disease more easily and quickly, and without leaving sequelæ behind. The last third, therefore, or one-ninth of the whole only, might, without my active aid, become the prey of death; and here it is certainly not indifferent *how* the patient is treated; for that mode of cure only which is adapted to the disease and to the patient can preserve him; consequently, the *sanatus fuit* may strictly mean no more than that he did not die, or perhaps that he fortunately escaped the mode of cure."[*]

If the identity of plague and typhus be still disputed, it may be allowed, perhaps, that the same mode of treatment is available in both. We have few detailed cases of plague before the time of Diemerbroek; for such was the terror inspired by this disease, that φευγε Μιθριδατε was the maxim acted upon by the physician as well as the patient.[†] Many of the histories related by that physician appear scarcely to differ from ordinary cases of typhus, and the recoveries are not few. The cases given by Orræus are valuable, in being drawn up by a good observer, who had sufficient courage to face his enemy. Those of De Merten are less so, since we have authority to believe that they were not formed from personal observation. It is alleged that we have no cure for plague, neither have we for typhus; for when we fail on the first attack to arrest the disease by an emetic or cold affusion, we have no further power;—the fever must run a certain course, disturbed perhaps, but not impeded in its progress. A learned and accurate physician remarks, that in typhus, and the same may probably be said of plague, we have only two modes of cure, the hypothetical and the empirical.[‡] How often the former has failed, the various systems of medicine bear ample testimony, and prove also, that typhus, as well as other contagious diseases, may be cured by the efforts of the vital powers alone, without the assistance of art or remedies. Indeed, such loads of medicines have been poured into the wretched sufferers from fever, that we have great reason to be sceptical as to their use.[§] Some have been honest enough to acknowledge this; Lange* observes, "aperte fatetur Cel. Albrich plures cum, quam sine medicina esse mortuos." Stoerk cured typhus, "cum sero lactis vinoso." Hildenbrand, in his own case, after a moderate bleeding and emetic, followed by a blister between the shoulders, trusted solely to lemonade and barley water.† Thus, he observes, like a small vessel in the midst of the ocean, without mast, sail, or rudder, he abandoned himself to his fate, having no further confidence in medicine or physicians.

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[*] Funk die Rückenmarks Entzundung, p. 62–75.

[*] Hufeland-Kriegspest, p. 97. For some very good hints upon this important subject, see a very curious little work, entitled, Anagyrica Medicis: Ægrotis vero grata et utilis collectio de manifestis quibusdam erroribus in usu medendi. Per Polidorum Seraphinum, Doctorem Medicum. Venetiis, 1708.

[†] Professor Arejula advises, as the most secure and efficacious means of escaping contagion, "irse pronto lejos, y volver tarde," p. 339. Or, according to the following distich:

Hæc tria tabificam tollunt adverbia pestem.
Mox, longe, tarde, cede, recede, redi.

[‡] In Ignominiam Medicorum profiteri cogor, omnem nostram febribus medendi methodum, rudem esse empiriam, philosophia vacuam, vacuam cognitione hominis physica. Neglectis legibus, ad quas corpora animalia immutantur, incerta abripimur hypothesium voragine. Reil, Mem. Clin. fasc. iv. 157.

[§] Galen describes very exactly one of the busy bodies of his time, who, entering a sick room, thinks he does nothing unless he can make an attack at all points upon the wretched patient, and thus astonish the by-standers. —Medicorum Græcorum Opera, Vol. ix. p. 822. Ed. Kühn.

Diemerbroek‡ condemns all evacuations in the plague, and asserts, that all who lost blood died, of which he gives some very striking examples; and the same of purging, which made him averse to the use of purgatives, "bellum abdomini indicare." Chenot remarks, "alvus clausa præ fluente magis ægro conducit." The assertion of Schneider, that he never lost a typhus patient whose bowels were constipated, applies probably to the attack of the disease, and in contradistinction to the watery diarrhœa which so often occurs, usually denoting an infarcted state or irregular action of the bowels, and which can only be removed by repetition of gentle purgatives. The utility of the practice of Diemerbrook, which consisted in giving sudorifics, light nourishing diet, and occasionally wine, is corroborated by Dr. Wolmar, more especially in his own case. (U. die Pest, p. 201.) Perspiration is an effort of nature to remove the irregular or increased action of the blood-vessels; and in countries said to be the cradle of plague, its importance is so far acknowledged as to make it the subject of inquiry in the common forms of salutation. A friend of mine at Sierra Leone, a learned Swede, was so strongly impressed with the importance of a moist skin, that his usual salutation was, "how is your perspiration?" The dry state of the skin is a powerful cause of that restlessness or jactitation often so distressing in the fevers of hot climates. In such cases the feelings of the patient will be materially soothed by swinging in a hammoc.*

No evacuation has been so much abused as blood-letting, for the vessels have been drained as if their contents were excrementitious; and in practice, fever and bleeding have generally been considered as synonymous. During the late war on the continent, much diversity of opinion, not unmixed with acrimony, prevailed respecting the propriety of blood-letting in that destructive epidemic which so lately ravaged Germany. These were collected with great candour by Professor Hufeland, whose observations on the merits of the depleting system in the two epidemics of 1806-7, and 1812-13,† deserve attention.

The application of oil in plague, first published by Mr. Baldwin,‡ is very generally known, and has met with various success. The following additional testimony in its favour, containing a greater number of cases of inoculation than I have any where seen recorded, is not unworthy of notice. The Swedish consul at Tangier asserted, that if from four to eight ounces of olive oil be swallowed, at the time of infection from plague, a very profuse sweat is excited, which requires only to be kept up by diluents. The disease has been thus cured in a few hours. Occasionally, indeed, the oil proves emetic or purgative, but, for the most part, its first and most beneficial effect is perspiration. The success of this treatment was so evident, that even the

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* "Quo simplicior medendi adparatus, eo tutior nobis videtur, et decorus magis." Hildenbrand Rat. medendi in schola pract. Vindobonensi, I. 257. A fondness for taking medicine denotes a disposition to hypochondriasis; and the old proverb justly says, "medice vivere, est misere vivere."

† See Wolmar, abh. u. die Pest, p. 54. "I have often observed," says this intelligent writer, "that the most dangerous case of plague left to the powers of nature, with only rice, jelly, and lemonade, more certainly and speedily recovered, than they who in slight attacks of the disease were overwhelmed with loads of medicine." The Hippocratic dogma, φυσις εξαρκει πκνταπασιν, may not be strictly correct, but it is certainly deserving of our serious consideration. Upon this subject Hildenbrand expresses himself very strongly, page 180, Ueber den Typhus. Professor Reil gives a similar opinion with regard to the bad effects of laxatives when too active. He says, "of all evacuations that by stool can be longest dispensed with in fever, without harm to the patient. Costiveness is a common symptom during convalescence, produced by nature to avoid the waste of strength; and the physician who counteracts this effort is unworthy of his name."—Ueber die cur der Fieber, i. 384—390.

‡ De Peste, 151.

* Berends Vorlesungen, 185.

† For the results of this comparative view, I may refer to the 13th volume of this Journal, p. 385 and 387.

‡ Though not strictly connected with the present subject, it may not be improper to notice here the use of oil as a popular remedy in Russia for the recovery of frost-bitten parts, and said to be particularly successful. (Eton's Survey of the Turkish Empire.) Goose-grease made warm is smeared over the parts, and frequently repeated, so as not to allow them to become dry. By this simple remedy the blackness gradually decreases, until the circulation is fully restored. In gangrene from other causes it might also be tried. It probably acts by retaining the natural heat, and thus applying, constantly and regularly, a low, (but very gradually increasing) degree of stimulus, such as is best adapted to the deadened parts. Perhaps a more consistent fat, as melted suet, might act more effectually in retaining heat. In the first instance, the rubbing of the frosted parts with snow, &c. will probably not be neglected.

Moors were induced to adopt it; and two negresses who took oil abundantly on the first attack of plague recovered, though not an instance of a black person recovering from this disease had previously occurred. Dr. Sola, a Spanish physician, by giving oil internally, lost only twelve out of three hundred Jews whom he attended in plague.

The same physician, supposing probably, like Dr. Valli, that he had discovered an antidote to plague, used a mixture of the matter of bubo and carbuncle mixed with an equal quantity of oil, to inoculate fourteen persons. Twelve incisions were made in each patient; viz. three in each groin, and three in each axilla. Moreover, eight of these people had four incisions, each two inches long, and penetrating to the muscles, made by a bistoury, in other parts of the body. Into these wounds the virus of plague, mixed with oil, was injected by a syringe. Seven of the number inoculated did not experience the slightest affection, local or general; but the other seven, in a period of from four to twelve hours, were affected locally, viz. in three, there was a small bubo in the groin; in one, a carbuncle on the buttock; and in the other three, constitutional symptoms appeared with a trifling irritation about the punctures. These persons were shut up in separate rooms on the first appearance of disease, and made to use oil, externally and internally, without any other remedy. They all recovered, most of them within twenty-four hours, but some rather later. All, however, remained healthy afterwards, though daily exposed to plague. These cases, though curious, are by no means conclusive, for the matter of plague was probably not materially changed, but merely prevented by the oil from being applied to the wounds. Besides, we have no rational grounds for repeating the practice, as persons are liable to be repeatedly affected; and in the epidemic above mentioned, one person, not inoculated, had the plague three or four times in the space of fourteen months. Samoilowitz, a sanguine adviser of inoculation, tried it only in a very few instances at Moscow. Orræus condemns the practice, and probably De Mertens opposed it, which may have excited a degree of spleen in Samoilowitz, who declares that De Mertens saw only three incipient cases of plague,—an assertion, however, which is confirmed by Professor Baldinger on the credit of letters received from Moscow.

One remedy remains to be noticed which has not been so generally used in fevers as it deserves, I mean mercury.[*] It has been remarked by a number of writers, that when mercury, given in febrile complaints, typhus and remittents, excites ptyalism, though not given with that intent, the symptoms become in general milder, and the disease terminates favourably.

In an acute fever which raged epidemically at Lucca, Benvenuti exhibited mercury in Herculean doses. After blood-letting he commonly gave two scruples of calomel, which removed the diarrhœa (probably the watery stools,) and usually restored the patient to health. When this failed, bark was joined to it. One drachm of bark and a scruple of calomel were divided into four doses, and given during the day; and the same doses were repeated during three successive days, and generally with success. In alarming cases, to prevent the recurrence of the paroxysm, three drachms of bark[*] and one drachm of calomel were given for a dose. Benvenuti speaks of his practice as very successful, which he attributes chiefly to the mercury, though he does not notice salivation being produced. Among later writers, the testimony of Professor Hufeland in favour of the mercurial practice is highly important. In inflammatory affections of the head, lungs, liver, spleen, &c. he adds, calomel given in large doses produced the most decided advantage.

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[*] Professor Reil remarks that mercury is one of the chief remedies in many kinds of typhus, and that it soothes the inordinate action of morbid organs without weakening their energy, (Fieberlehre, i. 565;) and adds, that it has long been used, especially in later times, as a remedy almost without exception in all inflammations of a typhoid character, and with the best effect. In aliis quoque contagiosis epidemiis, quibus interfuit inflammatio, utilissimum se præbuit calomel.—Autenrieth.

[*] In the remittent fever of warm climates mercury is a powerful and valuable adjunct to the Peruvian bark. The mixture is strongly recommended by Reil, particularly in smallpox, to promote the suppuration.—Mem. Clin, Vol. ii. Fasc. i. p. 112. Schwartze likewise used the compound mercurial plan in hepatitis complicated with malignant fever, "ægrotis admodum debilitatis, vel simul febre maligna laborantibus, mercurium, sed cum cortice nuptum, exhibuit."—Schwarte Diss. observat. quasdam medicas continens. Gott. 1779. Rambach Op. Citat. The use of mercury is perfectly compatible with the Peruvian bark, and still more advantage will be derived from the addition of a sudorific to the latter. From three to four drachms of sweet spirit of nitre in a mixture containing an ounce and a half or two ounces of bark, the whole to be taken in twenty-four hours, was very effectual in the remittent fever of Sierra Leone, in putting a stop to the recurrence of paroxysms, and in preserving a pleasant moisture on the skin. Professor Arejula (Breve Descripcion de la Fiebre Amarilla padecida en Cadiz, &c. en 1800,) used the bark with great success in the yellow fever at Cadiz, even when "el sembiante del enfermo permanece roxo: y el pulso con alguna valentia." His practice of using the bark early in the disease perfectly coincided with my practice at Sierra Leone. A flushed face, and pulse at 120, did not deter me from using the bark, being convinced that the patient's only safety consisted in an early, liberal, and steady use of that powerful remedy.—See also Schultze de Mercur. usu in Febr. Quart. Halleri, Disputationes, Vol. v. p. 112.

Schneider ranks* among the favourable symptoms of fever, the speedy excitement of salivation by mercury; and this I find to hold good in inflammations in general, as well as in typhus. Mercury speedily affecting the mouth proves the disease to be yielding, and the patient to be safe. Indeed, I feel convinced, from what I have experienced in cases of typhus, that moderate salivation, excited during the first week of the disease, and kept up during its course, at least during the state of stupor, will, humanly speaking, render the fever mild, and, by preventing *engorgement* in important viscera, divest it of all danger. Professor Autenrieth, one of the most strenuous and able advocates of the mercurial treatment of typhus, gives a similar testimony respecting the utility as well as safety of the practice. His ideas respecting the mode of action of mercury are not those commonly received.—"Vis ejus primum adhibiti nec æstum auget, nec febrem, nec dolores, nil habet conspicue stimulans. . . . Nec in ipso vis importune debilitans cernitur, nisi forma illius sive methodo interne illum applicandi nauseam vomitumque et nimias dejectiones excitaveris." The increase of all the secretions seems to indicate a stimulant power in mercury, unless we suppose that it acts by merely removing the obstacle to secretion, as we see in a spring kept forcibly in a state of tension; if the power be suddenly removed, it reacts with greater vigour.† But, however we may account for its mode of operation, the fact appears to be indisputable, that increased vascular action ceases as soon as mercury produces its specific effects; the two actions are incompatible with each other.

Professor Autenrieth limits the use of calomel to the first week of typhus, alleging "post septimum morbi diem calomelanos usus internus non amplius tutus visus est;"‡ after which period he recommends mercurial frictions. From my own experience, however, I feel convinced that calomel is safe during every stage of typhus; and the nearer it approaches to its termination, the more necessary is its use, both in larger doses and more frequently repeated, owing to the torpid or paralytic state of the stomach, which too frequently occurs at the close of the disease. In extreme cases, and where little time remains, it will be of importance to join the two modes, and use external frictions also: even dressing the blistered parts with mercurial ointment will be found of advantage. The quantity of calomel used by the Professor is also much smaller than I should venture to rely upon. He says, "Sex ad duodecim grana calomelis refractis dosibus in primo morbi stadio data sæpissime jam scopum attigere." As soon after the first attack as the disease was ascertained to be typhus, I have been accustomed to begin with the use of calomel, giving, in the mildest cases, not less than one scruple or half a drachm, in divided doses, during the twenty-four hours, and this quantity was continued until the mouth became sore. Great caution is requisite at this period. If we suspend the use of the remedy, and allow the mercurial affection to subside suddenly, all the previous good effects may be lost. On the contrary, if only an additional five grains of calomel be administered when salivation is *fully established*, as much mischief may be occasioned whether the salivation has been produced by five grains or by fifty.

After such testimony in its favour, it is wonderful that mercury has not been resorted to, in every febrile case of importance, as commonly, and with as much confidence, as bark in intermittents. For a number of years I have been accustomed in all continued fevers, particularly typhus, to endeavour to excite ptyalism as early as possible, and when produced, to leave the course of the disease to nature, watching only lest the mercurial action should decline or suddenly cease. When doubts arise respecting the propriety or safety of blood-letting, then mercury offers itself as a valuable auxiliary.*

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* Ueber den sporad. Typhus, 1826.

† Rambach usus Mercurii in Morbis Inflammatoriis, p. 38. "Mercurius enim omnes sanat inflammationes, nulla sedis, characteris et causarum habita ratione."

‡ Rambach appears to have been equally fortunate with a small quantity of mercury. The preparation he used was the *mercurius solubilis* of Hahnemann, *oxidum hydrargyri cinereum* of Edinburgh. "Subjectis robustis," he observes, "ad decem vel duodecim grana, delicatulis vero quatuor vel sex in unico Nychthemero præbere protest. Horis viginti quatuor elapsis plerumque magnum levamen ægroto jam allatum est, quid! interdum, ut ipse vidi, febris una cum dolore plane evanescit. Usus Mercurii in Morb. Inflammatoriis," p. 30. In slight cases, and to delicate persons, Reil gives from eight to ten grains of calomel; to the more robust, from ten to fourteen grains in twenty-four hours. Allgemeine Fieberlehre, i. 569.

In Richter's Chirurg. Bibliothek, v. 692, are some important remarks by Michaelis on the use of calomel.

The mercurial treatment of yellow fever is very concisely stated in the following quotation: "Multi, hydrargyri ope copiose administrati horrendæ hujusce pestis, manus evaserunt, ipse superstes viribus hydrargyri felicibus testimonium perhibeo. Hydrargyri muriati mitis grana 270 quinque diebus labentibus, granis quinque qualibet hora sumptis, devoravi; perque illud temporis spatium viginti unguenti ex hydrargyro fortioris drachmæ femoribus, cruribus, abdomini, et brachiis, mihi affricatæ fuerunt, nullo neque in alvum, neque in glandulas salivæ inservientes, effectu edito, usque dum febris recesserat, quo quidem tempore saliva mihi leniter manare cæpit, quatuorque circiter septimanas, viribus paulatim recuperatis perstitit. Porro medicamentum tertio die omissum fuit; ita ut tota ista hydrargyri vis quatriduo administrata fuisset."—Maclarty de Typho Regionum calidarum. Edinb. 1797, p. 44. Where the mercury fails of producing its effects within the first week, when given as above described, it may for the most part be considered as of no use to continue the medicine longer.

Schreiber,† professor at Petersburgh, in his description of the plague in the Ukraine, was led by analogy, not perhaps strictly correct, to administer mercury in plague, and imagined he had discovered a specific for it. Seeing mercury useful in lues for the cure of bubos and ulcers, he pursued the same practice with advantage in plague also. For the use of mercury in this disease we have the testimony of Dr. Maclean, who gives, in my opinion, satisfactory proof that the treatment of plague is identical with that of typhus. Anxious to bring his opinions respecting contagion to the test of experience, Dr. M. immured himself in a pest-house, at Constantinople, where the privations which he suffered, and the obstacles intentionally opposed to his recovery, render it a matter of surprise that he escaped with life. Like the unfortunate Dr. Valli, in nearly similar circumstances, Dr. M. caught the plague soon after he shut himself up. Had he not fallen sick, his opponents might have said that he was not predisposed to the disease; but fortunately, this unmeaning excuse was not required, for he did not escape an attack, and cured himself under circumstances extremely adverse to recovery. On perusing his case, inserted in his valuable report to Sir Robert Liston, I was much surprised at the mildness of the symptoms detailed. During a residence of four years at Sierra Leone, I do not recollect an instance in myself, or in any of my patients, where, after an attack of common remittent fever, we could muster up sufficient strength and fortitude to leave the bed and walk about the room, much less to promenade without doors. Dr. Maclean's practice in plague is what I should choose to adopt in similar circumstances, diminishing probably the quantity of opium, and increasing that of the mercury.

The operation of mercury in acute diseases in general is still obscure, probably from the small doses in which it is given in fever and inflammation. Two or three grains of calomel given at night can seldom produce much effect; the disease runs its course before the remedy can act. One hundred grains of calomel administered in twenty-four hours appears to be an alarming quantity;* but so long as it does not produce its specific effects on the system, it ought to be no more regarded than if only five grains had been used. When given for a short time in these large doses, it does much less injury to the constitution than when small doses, on the alterative plan, have been used for a length of time; for daily experience shows that a protracted use of mercury weakens considerably the action of the heart and arteries, renders the skin pale, and produces great emaciation. To obtain the desired effect in acute diseases, mercury must be given largely and quickly. We are not to be guided by the quantity of the remedy introduced, but by its effect upon the mouth.† I do not assert that mercury, in these large doses, is unattended with danger, but it is not more dangerous than large doses of digitalis, nor does it act with accumulated violence, as is said to be the case with arsenic. The physician must watch sedulously and anxiously the action of the mineral, so as to produce the effect upon the mouth, and to avoid all unnecessary subsequent distress. Of the two evils, however, I believe the lesser one to be the introduction of rather too much than too little. It is a curious fact, that where calomel is given to a large amount, (between 200 and 300 grains,) but owing to strong vascular action, or an insensible state of the system, without making any impression;—if at this period the use of the remedy be suspended, though for a few hours only, yet no subsequent effort is of the least avail to recover the lost ground, or to excite a mercurial action.

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* John de Vigo appears to have recommended in lues venerea the internal use of a red precipitate of mercury, which he likewise used in plague. Sprengel Gesch. d. Arzneik, iii. 83. See also Die Lehre von den Giften, p. 67. Gottingen, 1827, by the learned author of the "Origines Contagii." Professor Bakker, "Epidemia quæ anno 1826, Groningam adflixit," did not wait for an apyrexia to begin with bark. When symptoms of congestion appeared in the brain, it became absolutely necessary to prevent the recurrence of the next paroxysm, which generally proved fatal by producing apoplexy, or coma and dysenteric purging. Sulphate of quinine was given from gr. ij.—iij. and even to gr. vi. every hour, half hour, or even every fifteen minutes, which seldom failed to produce the desired effect.—Zweiter Bericht des Hern. Dr. Fricke, ueber seine Reise, &c. p. 30.

† Halleri, Disputat. ad Morb. Hist. et Curationem, V. vii. p. 134.

* It is well known that infants and children bear large doses of calomel. "Marcus narrat se infantes vidisse, qui intra 48 horas, gr. ducenta quadraginta Merc. dulc. ingesserint." Otto de Act. Hydrargyri Medica, part ii. p. 63.

† In some cases of oppressed brain from external injury, where there was reason to suspect extravasation, I have seen calomel, largely and rapidly given, excite a sudden and prodigious flow of urine, followed by a return of consciousness, even before the mouth appeared to be affected. In such instances the mercury was suspended, and the patient recovered.

Whether chalk or mercury is administered in such instances, appears to be a matter of indifference. During this conflict, when the contending powers appear to be so nicely balanced, the loss of a small quantity of blood will frequently enable the mercury to prevail. This timidity of practice was once painfully instanced in a case of hydrocephalus.[*] A young lady, aged 15, had lain in a state of stupor for several days with every symptom of oppressed brain. Upwards of 300 grains of calomel had been taken internally, without disordering the stomach or bowels. The patient at length opened her eyes, seemed to distinguish objects, and spoke to one of her attendants. In consultation with a much respected friend, an excellent and experienced physician, in consequence of some fœtor of the breath, and the other symptoms denoting diminution of pressure on the brain, it was thought the mercurial erethism could not fail to be speedily produced, and therefore it was deemed most prudent to suspend the mercury. This was unfortunately done for a few hours, during which the stupor gradually increased, and no further efforts could avail to rouse the vital energy. The use of mercury is not only compatible with blood-letting, but it is also a powerful auxiliary; it renders its good effects more permanent, and very frequently dispenses with the necessity of a repetition. Indeed, it may be asserted, that mercury will agree with every plan of treatment which has been proposed for the cure of typhus, and of plague also, except that of everlasting purging. In answer to those who speak only of the bad effects of Mercury, Hecker replies, "omnes illas noxas haud metuendas esse, si medicus remedium adhibere intelligit."[†]

The first apparent effect of large doses of calomel is perceived in the stools, which become dark coloured, as if mixed with ink, and sometimes have a granulated appearance like boiled sago, occasioned by the quantity of coagulable lymph pured out from the villous coat of the intestines, now in a considerable state of erethism. When mercury is disposed to run off by the bowels, it may always be checked by adding to each dose ℈j. or ʒss. of kino, and occasionally small doses of opium. When mercury acts as a purgative, its specific powers are lost, and it has no peculiar advantage in inflammation and typhus, over other cathartics. This is also the opinion of Professor Autenrieth, who says, "Calomel nimia dosi inditum et celerius purgans salutifera sua in diathesin inflammatoriam vi caret."[‡] Calomel, however, does not always excite purging, for in consequence of exciting so powerfully the action of the absorbents, costiveness is not unfrequently produced. The action of mercury seems to bear some resemblance to that of emetics and of blood-letting; which at once act on the vascular system by diminishing its energy, and at the same time powerfully stimulate the absorbents, producing a diminution of tumours, dropsical swellings, and the general increase of bulk in parts. The experiments of Magendie may, indeed, lead us to suppose that the action of the sanguiferous and absorbent systems are in opposition to each other, and that, by diminishing the energy of one set of the vessels, we proportionally increase that of the other.

It would be a curious revolution in medical opinion, if the use of mercury should be rejected for the cure of that disease for which it was originally introduced into practice. This would be indeed a most important and desirable improvement in our art, if sanctioned by proper experience.[*] But for these experiments, prudence ought to induce us to select only such subjects as are likely to remain a sufficient length of time under our immediate inspection. However these speculations may succeed, we have reason to believe that in mercury we possess a safe and powerful remedy to arrest the progress of acute diseases, and in many instances even where all human interference appears to be of no avail. To my friend and former pupil, Dr. John Aitkin of Edinburgh, I may refer for his testimony in favour of large doses of calomel rapidly administered in some very serious cases of enteritis, hernia, hydrocephalus from internal causes and from external violence, which he witnessed, and some of which he himself treated whilst under my care.

In enteritis and strangulated hernia,[†] two cognate diseases, I have found calomel in large doses to possess powers equal to the Peruvian bark in the cure of intermittents. In strangulated hernia, ten grains of calomel repeated every hour, or hour and a half, so that about one hundred and twenty grains may be administered in from fourteen to eighteen hours, will frequently occasion the protruded part to recede spontaneously, or at least with the slightest touch. When the vomiting and pain are considerable, half a grain or a grain of pure opium, occasionally repeated, will be found extremely useful. In upwards of twelve cases, this method completely succeeded with me; in one instance it appeared to fail. A sailor, who had previously been subject to bubonocele, but which had always been returned, though imperfectly, had laboured nearly a week under all the symptoms of strangulated hernia. Mercury was exhibited without occasioning a retrocession of the tumour, which was small. The operation, which had hitherto been rejected with singular obstinacy, was now performed. The intestine adhered firmly to the mouth of the sac, which occasioned some delay, but the operation was perfectly successful, and the patient speedily recovered his health. This case is in some degree satisfactory, by showing that the liberal use of mercury presents no obstacle to the success of the operation; and where the surgeon would prefer the operation, but is prevented by the timidity of the patient, it further shows that mercury may be used in the intermediate time, although he might entertain no further hopes from its exhibition than to delay the fatal termination.

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[*] "Singularis illius utilitatis, quam calomel in Hydrocephalo acuto, contagio excepto, morbo typhi perquam simili, præstat, eadem causa est."—Autenrieth.

[†] Otto de Actione Hydrargyri Medica, p. 145.

[‡] Johnes de utilitate Hydrarg. in Febre Typhode, p. 43.

[*] Oppenheim die Behandlung der Lustseuche ohne Quecksilber. Hamburg, 1827, contains a list of the various surrogotes which have been used to supersede the use of mercury; to which is appended a brief notice of the *Starving*, or *Hunger-cure*, a practice noticed very early, but which has been only partially adopted; though often with success.

[†] See an important little pamphlet upon this subject by Dr. Peart. Printed for Miller, London, 1802.

From the Nouvelle Bibliotheque Medicale.

SUR LES ACCIDENS GRAVES QUE PEUT DETERMINER LE SEJOUR, DANS LE TISSU CELLULAIRE PROFOND DU COU, DE FRAGMENS D'OS AVALES. Extracted from a Memoir read to the Academie Royale de Medecine, by Doctor Gibert, Agrégé à la Faculté de Paris.

Case 1.—A young man, æt. 24, inadvertently swallowed a fragment of bone, which gave rise to very acute pain, in traversing the pharynx. The bone appeared to him to have lodged at the upper part of the œsophagus, and some rude and ill-directed efforts were made, by means of a piece of whalebone, armed with a sponge, to force it into the stomach; a few minutes afterwards he swallowed without difficulty, though with some degree of pain, a piece of bread, and thus ascertained the removal of the obstruction. It will be seen hereafter, that the foreign body was indeed removed from the œsophagus, but that instead of descending into the stomach, it had perforated the parietes of the tube, and had passed entirely into the surrounding cellular tissue. The pain which the patient had felt in the first instance, still continued in a fixed point, on the left side of the neck, a little behind and towards the inferior part of the larynx. The next morning, although in pain, and unable to swallow without difficulty, he was still capable of walking about and attending to his various avocations: for some reason or other, he was induced to take an emetic, which only had the effect of fatiguing him, and aggravating his sufferings. The third day, Dr. Duportail was called in consultation. At this period there was an extremely acute pain in the spot above mentioned, which became insupportable on pressure, and began to extend along the œsophagus; deglutition was entirely prevented, and when the patient attempted to force down a few drops of liquid, a burning and lacerating pain in the part where the bone had been arrested, compelled him instantly to suspend his efforts. There was a constant discharge of saliva from the mouth, a high degree of fever supervened, with a full, hard, frequent and vibrating pulse, headach, sleeplessness, &c.

These symptoms were supposed to arise from inflammation of the œsophagus, excited by the passage of the bone, and especially by the attempts made to force it into the stomach, although some doubts were entertained whether the bone had not perforated the tube, and passed into the cellular tissue of the neck; no appreciable tumefaction, however, could be detected in the seat of pain.

The patient was twice bled very freely, and thirty leeches were applied along the œsophagus; emollient cataplasms were directed to the neck, sinapisms to the legs, the warm bath, enemata, and some spoonfuls of an anodyne mixture with sirup of diacodium, were administered. This energetic treatment was productive of very little melioration. On the fifth day, deglutition was less painful, the patient expectorated some thick sputa; the fever continued high, and fears were now entertained of the formation of an abscess. An exacerbation occurred on the seventh day, and deglutition again became impossible; while in the bath, he felt a call to the garde-robe, (no alvine evacuation had yet been procured,) fainted on being placed upon the basin, and afterwards threw up by a slight effort of vomiting, a little sanguinolent and purulent matter, and passed successively, three liquid stools, in which it was thought some globules of pus could be recognised. The patient remained in a state of extreme weakness, and could not see the persons around him. In the afternoon, the pain in the neck suddenly ceased, and he drank eagerly and with great facility. In the evening, there was a perfect calm; the countenance was pallid, pulse frequent and soft; he had recovered his strength however, and vision was restored. There was no pain in the œsophagus unless pressure were made, and it was again exactly limited to its primitive seat. The patient complained of feeling weak, and requested to leave his bed, which he was permitted to do. There was something of an *ataxic* character in the expression of his countenance, and in his short and hoarse voice; his intellect, however, was perfectly sound, except that he then stated that he felt perfectly well. This state of things continued through the next day; the night following he was very restless, he rose from his bed, walked about his chamber, called for drink incessantly, and swallowed without the slightest difficulty.

On the night of the ninth, a violent rigour supervened, followed by heat without perspiration; his respiration was difficult and hurried. At five in the afternoon, another very violent paroxysm occurred, with confusion of intellect, dimness of vision, and difficult respiration, without any local uneasiness.

M. Duportail prescribed twelve leeches to the anus, sinapisms to the lower extremities, an antispasmodic mixture with Hoffman's anodyne liquor, and pills of the sulphate of quinine, directing the latter to be given during the remissions; compresses wet in cold vinegar, were applied to the forehead.

During the former part of the night, the patient was much agitated; some pain was felt in the left side of the neck; pressure upon this part excited pain, and it was thought that some deep seated œdema and tumefaction could be detected, but this sensation was not very distinct. A state of exhaustion and drowsiness succeeded the agitation; the pulse lost a little of its vivacity and quickness. About 3½ A. M. a slight rigour commenced, and being apprehensive of another paroxysm still more severe than the preceding, six grains of quinine were exhibited in the space of a quarter of an hour; the rigour hardly lasted twenty minutes, it was followed by some febrile excitement, but much less than before.

At 7 o'clock P. M., M. Duportail saw the patient again; he was calm; countenance pale, emaciated, and sunken; he had a loose stool during the night; he did not complain; respiration was short and frequent; pulse 138, and easily compressible; the heat of the surface moderate; the paroxysm appeared about to terminate. M. Duportail adopting the idea that the patient was labouring under a malignant remittent fever, strongly insisted upon the employment of the sulphate of quinine; and although his opinion differed from that of Dr. Gibert, who considered the febrile symptoms as dependent upon a local affection, there was little diversity of sentiment as to the propriety of the remedy. A blister was also applied to the back of the neck, and sometime after, two others to the legs; the sulphate of quinine was freely given during this and the following day.

The debility of the patient made rapid progress, and he died on the morning of the 13th day, in full possession of his intellectual faculties.

Autopsis, twenty-five hours after death.—Externally, a slight degree of lividity, with some degree of puffiness and infiltration were observed on the left side of the neck. The pharynx and œsophagus were perfectly sound, but at the junction of these two parts, there was observed upon the mucous membrane a very minute depressed point, without any trace of perforation. Externally, beneath the left inferior corner of the thyroid cartilage, under the deep layer of the anterior muscles of the neck, behind and below the left thyroid body, there was a black and gangrenous foyer, about two inches in diameter, containing a dark coloured and turbid liquid, partly infiltrated into the disorganized cellular tissue, and partly diffused and collected in the centre of the cavity, in which was found the fragment of bone which had occasioned death; it was about eighteen lines in length, pointed, and about the size of a large pin.

The stomach presented a dark-red colour, both on the external and internal surface of its great extremity; a circumstance attributed by Dr. Gibert to the action of the quinine, which, toward the close of life, had excited a sense of heat in the stomach, and had even been rejected by vomiting.

Notwithstanding that in this case the bone was deeply seated, and in the neighbourhood of important parts, the injury of which would have been attended with the most serious consequences, it is evident that, if its presence had been suspected, it would have been the duty of the physician, to have cut down upon it, and attempted its removal; every thing, however, seemed to confirm the opinion of the patient himself, that the bone had descended into the stomach; and the absence of local swelling led to the belief, at a later period, that if an abscess had formed, it must have been at the posterior part of the pharynx.

After some further remarks, Dr. Gibert proceeds to detail the second case, communicated by Dr. Corby.

A woman, æt. 50 years, was admitted into the Hôtel Dieu, with all the symptoms of a deep seated inflammation of the neck: a sense of fulness, tumefaction, and painful tension occupied this region, which appeared to be in a state of general and uniform turgescence, without any very apparent tumour or local projection in any point. Deglutition was almost entirely impossible; respiration difficult; the face injected, and slightly violaceous; the neck, though generally painful on pressure, presented externally no inflammatory redness; there was a slight degree of fever.

Leeches were twice freely applied, but had no influence in arresting the progress of the disease; respiration became more difficult; the pulse small and feeble, &c.

The patient descended from the medical ward into the amphitheatre, where the surgical consultations are held, and presented herself to M. Dupuytren, who having deemed it inexpedient to do any thing further than had been done, she returned to her bed, and died in the course of the same day, apparently suffocated.

The body was opened the next day. The operator had scarcely begun to turn down the layer formed by the anterior part of the neck, separated above from the lower jaw, when he observed, presenting through a perforation in the inferior and posterior part of the pharynx, an angular fragment of bone, about the size of a pea; in the cellular tissue, behind and external to the pharynx, there was a small and ill-defined abscess; the soft parts of the neck presented indications of sanguineous congestion; a small quantity of pus was found in the stomach. In this case, it is probable that by strongly depressing the tongue, the bone might have been seen, and removed from its situation by means of the curved forceps, but the cause of the disease was entirely unknown till revealed by dissection.

It is worthy of notice, that in both the preceding cases, the foreign body perforated the pharynx towards its junction with the œsophagus, which may be explained by the sudden change which occurs at this part in the form and diameter of the canal.

It frequently happens that substances which have been swallowed, are arrested in the rectum, which they perforate, and give rise to suppuration, terminating eventually in fistula; of which the following is an example.

A man, æt. 60, of a robust constitution, and rather corpulent, having never had hemorrhoids, was suddenly attacked while at stool with acute pain in the lower part of the rectum; the pain continued, deprived the patient of rest the following night, and was aggravated by every attempt to pass the urine. On careful examination, a slight degree of redness and increased sensibility of the mucous membrane about the termination of the rectum, was all that could be discovered. Twelve leeches to the anus, the hip bath, and an emollient enema were directed. Some relief followed these measures, but in the evening of the succeeding day, there was an aggravation of the pain; it had greatly increased on the fifth, and there was considerable difficulty in micturition; the patient had an alvine evacuation without pain. A slight degree of redness and engorgement was observed on the left buttock near the anus; on introducing the finger into the rectum, this intestine was found very sensible to the touch, and the induration of the inflamed cellular membrane on its left side could readily be perceived. Thirty leeches were directed, an emollient cataplasm, hip baths, &c.

The abscess opened externally the following night, and a great quantity of very fœtid pus was discharged. The patient felt himself much relieved, slept, and complained only of the difficulty in passing his water. The external swelling had disappeared, and there remained at the distance of an inch and a half from the anus, an opening, as if made by a lancet, giving exit to a reddish matter.

M. Dupuytren, who now saw the patient, suspected that the abscess might be owing to a perforation of the rectum by some foreign body, such as a fragment of bone, &c.

The succeeding days, after a brief mitigation of the symptoms, there was a recurrence of the pain, and another abscess formed in the perineum in front of the anus, which opened almost immediately into the rectum; notwithstanding which, an incision was made into it externally, and pus mixed with fæcal matter was discharged through the opening. The orifice of the abscess last mentioned, was readily detected a few lines above the anus, by the finger introduced into the rectum, but the communication of the other with the intestine was not so evident; the probe introduced into it passed up to a great height, and then appeared to be arrested by some obstacle; M. Dupuytren supposed it to be the foreign body, the existence of which he had suspected.

The operation of fistula in ano was performed after the lapse of a few days, and both sinuses were laid open. On removing the dressings on the third day, a fish bone was discharged from the first fistula, of such size that the patient could hardly comprehend how he could have swallowed it.

From the London Medical Gazette.

ESSAYS ON SYPHILIS. By John Bacot, lately Surgeon to the First Regiment of Guards.

(Continued from p. 194.)

RHEUMATISM CONNECTED WITH GONORRHŒA.

The next affection which I shall mention as a consequence of gonorrhœa is rheumatism; that is, pain and swelling of the knees and ankles especially. This is the most usual form which the complaint assumes, though in a few very rare instances the symptoms have been more general, the pain more acute, and the general disturbance of the system more severe. These diseases are scarcely mentioned by any writer upon venereal complaints, at which Swediaur expresses his astonishment; though, in fact, what he has said upon this subject is very unsatisfactory, and proves that it was but imperfectly known even to him: it has not, however, escaped the penetration of Mr. Brodie. Here, again, we are told that a suppression of the gonorrhœal discharge is the cause of the attack; but in the cases which have fallen under my own observation, this must be understood in a very qualified sense. I think it may be fairly said, that neither the affection of the joints, nor the more general rheumatism, come on until the gonorrhœa is upon the decline; and occasionally it has appeared to have succeeded to a sudden cessation of the discharge, following the use of cubebs or copaiba, in large doses; so that those medicines have not escaped the imputation of having been the remote causes of the attack. The subject is too little understood, and the examples of the disease too unfrequent, to permit me to indulge in theoretical views. All I can with confidence assert is, that an attack of pain, and enlargement of the joints of the knees and ankles, sometimes take place suddenly towards the termination of a gonorrhœa. The subjects of these attacks are usually young men of strumous habits, of florid complexions, and not particularly robust. There is often much puffiness and tenderness of the ankles, especially towards evening; the skin is not externally red; and the pain is not very much augmented by gentle pressure; the pulse is usually more frequent than in a state of health; the stomach sympathizes also in the attack; the appetite declines, or fails altogether; and now and then it happens that all these symptoms are suddenly relieved by an eruption of papulæ, in clusters; or sometimes by pustules, in very minute patches. When these appear not only are the pains relieved, but the constitutional symptoms also yield; and the eruption, after some days, sometimes, indeed, not for some weeks, grows paler, and a desquamation succeeds, leaving a slightly discoloured state of the skin, which, however, gradually wears itself out. This is the progress of the symptoms when left to themselves; but medicine can do much to relieve them, and to facilitate and hasten their course. In the first attack of pain and swelling of the joints, rest, and confinement to bed, together with the employment of local or general blood-letting, will be necessary; though the use of the lancet is, I think, upon the whole, much to be preferred to the application of leeches; but the bleeding should not be carried to any extent. This should be accompanied with the exhibition of saline antimonial medicines, combined with the compound powder of ipecacuanha, in doses of five or six grains, with an interval of four or five hours between each; or what sometimes answers still better, the vinum colchici, in such doses as will produce some effect upon the stomach and bowels. For this purpose, one drachm of the wine may be given as a single dose, mixed with magnesia and camphorated mixture, and a very sudden remission of the pain is frequently the consequence; or, if preferred, the same remedy may be given in more divided doses, from twenty to twenty-five minims every five or six hours. When, by either or all of these means, the pains are relieved, and the pulse returns to its healthy standard, frictions to the limbs, either of camphoretted spirits, or with the flesh brush, and the internal use of the compound decoction of sarsaparilla, will tend to restore the tone and vigour of the system. If the joints continue swollen and stiff, the warm salt-water bath may be used three times in the week, and a moderate share of exercise permitted, provided the weather admits of it.

In those cases where the affection of the joints is succeeded by eruptions of the papular or pustular forms, (sometimes, indeed, they are mingled together in the same individual,) in addition to the sarsaparilla, small alterative doses of mercury may be conjoined. Of these, the best form is, I believe, the compound calomel pill of the present pharmacopœia. Under its judicious and careful use the eruptions will fade away much more quickly, and the strength and health will be more speedily restored, than by the mere vegetable remedy alone. It is not necessary, even in these cases, to carry the exhibition of mercury to the extent of salivation, though a slight tenderness of the gums is not by any means objectionable. One caution, however, is, I think, absolutely necessary; that is, never to persevere in the use of the mercury if it deranges the bowels, or appears to excite any disturbance in the system, denoted by acceleration of the pulse, restlessness, or disturbed sleep at night. Such is the plan of treatment which I should adopt in these affections; but when we have to encounter the more rare, but at the same time more formidable cases of general rheumatism, the mode of treatment must be more assimilated to that which we should practise in cases unconnected with any gonorrhœal origin; that is, bleeding may occasionally be necessary. Antimonials or colchicum, with opium and the warm-bath, will be indicated according to the extent and severity of the symptoms; though in the convalescent state the sea-air and bathing are equally appropriate, and more necessary even than in the former instances.

Among the medicines most efficacious in removing the chronic stage of this disease, bark and guaicum hold the first rank. The ammoniated tincture of guaicum is, indeed, in these instances, a most invaluable remedy, given in doses of from forty to sixty drops, in combination with the decoction of bark, two or three times in the day.

I have once or twice found these rheumatic complaints dependent upon an irritable state of the urethra, the consequence of a long continued or repeated discharge; and in these cases the symptoms are rather remarkable for their obstinacy than for their violence. Here a painful condition of the feet is often one of the most distressing symptoms, which is sometimes a little better, at others again aggravated, without any apparent reason. In these patients the cure cannot be expected until, by the employment of bougies, the urethra is restored to a healthy state. All that I have just said relative to rheumatism accompanying or following gonorrhœa, is the result of my own observation and experience; but it would be unjust not to allude to the remarks which Mr. Brodie has presented to us upon this obscure subject in his valuable treatise on Diseases of the Joints. Of this affection he has published several cases, all confirming the principal points I have adverted to: they prove that these rheumatic symptoms occasionally come on during the continuance of the gonorrhœa; that it is sometimes accompanied with, or alternates with conjunctival inflammation of the eye; that the complaint now and then is met with merely in conjunction with irritable urethra. In one case the muscles of the abdomen partook of the attack, and there was an occasional impediment to breathing, which seemed to arise from a similar affection of the diaphragm.

Mr. Brodie comments very forcibly upon the severity and tediousness of these symptoms, together with the strong tendency to relapse, that always exists. In the treatment, with the exception of the colchicum, he is disposed to think that few medicines exert much influence over the complaint, although the method of cure which he advocates approaches as nearly as possible to that which I have described. Whoever wishes to read these interesting cases may find them at page 58 of the last edition of Mr. Brodie's work. In the last case related by that gentleman there is a circumstance mentioned which is quite consonant to my experience; that is, the exacerbation of the pain by the application of blisters to the swollen joint. I have not observed them to be followed by any beneficial result, and therefore I have not recommended their employment. In two cases it has occurred to me to see ulcerations of the soft palate, leading to a diseased condition of the palate bone, consecutive upon a virulent gonorrhœa. The disease had been in both instances of the most violent and intractable nature: the ulceration of the palate took place about two months from the apparent cure of the discharge. It was preceded by an inflammatory blush of the whole palatine arch; a small pimple formed and burst just where the velum pendulum palati begins; this spread rapidly until the ulceration assumed the size of a silver three-pence: and continued then with a sloughy bottom, and without much pain, but indisposed to heal by all the simple means employed for that purpose. The patient was of a strumous habit and very irritable constitution. The first appearance of the disease was accompanied with much fever, which gave way to active purging and antimonial medicine. Sarsaparilla was afterwards freely employed; but it was not until mercury was conjoined that a cure was effected. In one case the course appeared not to have been carried to a sufficient extent: the ulceration broke out again; disease of the superior maxillary bone ensued; exfoliation took place; and the patient finally recovered after a long course of mercury.

These cases are, I conceive, highly interesting, because they are certainly proofs of affections of the throat and spongy bones, directly arising from gonorrhœa, and gonorrhœa only. They are rare, perhaps very rare occurrences, not sufficiently common to cause a revolution in our practice, but sufficiently important to call our attention to any similar affection which we must not reject as syphilitic, and withhold the exhibition of mercury, merely because we can only trace gonorrhœa as a primary symptom. We must recollect how much is depending upon our coming to a right decision upon a question of such importance to the comfort and welfare of our patient, and not obstinately refuse a remedy which, judiciously managed, will undoubtedly lead to a successful issue, because the phenomena are not exactly in accordance with our pre-conceived notions. This is a subject to which my attention has lately been particularly called, and it stands in need of farther elucidation.

There is only one more presumed consequence of gonorrhœa which I have to speak of. Of this I have never met with an instance. It is, however, mentioned by several authors, and among the rest Swediaur, who calls it cophosis, or deafness, arising from the suppression of a gonorrhœa, of which he says he saw one case in the course of his practice. This, we are told, is sometimes attended by a puriform discharge from the ears, and that both these symptoms are remedied by a course of mercury. It was necessary for me to mention these observations, but I cannot confirm them from my own experience.

PRIMARY SYMPTOMS OF SYPHILIS.

Having now disposed of the subject of gonorrhœa, together with its real and presumed consequences, I come to the description of the primary symptoms of syphilis; that is, of *chancre* and *bubo*. The former term has for many years held an undisputed reign, but its meaning has become, in the course of time, so restricted, that we have now almost discarded it from our vocabulary, and are contented to call the primary affections on the parts of generation by the more familiar term of ulcerations; adopting a distinctive epithet to them, such as is afforded either by their appearance or situation. I do not object to this change; the word chancre is both unscientific in its origin and useless in its application, and never has been found to answer the purposes of description without much circumlocution. It implies, in fact, a cancerous sore, and has been enlisted, if I may so call it, into the service, merely on account of the supposed corrosive and intractable nature of venereal ulceration. It is a word of great antiquity, however, and was made use of to express certain unhealthy and obstinate sores on the sexual organs before the invasion of syphilis. Astruc treats of venereal ulcers under this name, but his very description proves that he did not restrict his meaning within such narrow bounds as modern authors have done, but that he admitted several descriptions of sore under this one appellation. In the first place, remark his definition of a chancre: "sunt ulcera exigua (he says,) superficiaria, parum cava, rotunda, callosa, contumacia, quæ à venereo contagio, in pudendis succrescunt et repullulant;" and then, a little farther on, he adds, that they differ in their situation, in number, and in quality; sometimes not being hard or callous; being more benign; affording good pus; having neither inflamed nor tumid edges; sometimes having ragged and irregular edges, with a livid bottom, &c. &c. So that here he at once overturns his former definition by admitting these various shades and distinctions: and in his diagnosis he especially relies upon the contumacious nature of the venereal sore or chancre. I by no means blame Astruc for marking these differences; they afford abundant proof of the accuracy and depth of knowledge which he possessed; but I do lament that he should have thought fit to attempt the definition of a sore which necessarily varies its appearances so much from the different situations in which it is placed, from peculiarities in the habit of the person receiving the infection, and even from the method of treatment adopted in the first instance.

The same observations apply to Mr. Hunter's definition, which for many years was universally believed and adopted; that is, theoretically, for it never was adopted in practice even by Mr. Hunter himself: and those who read his cases will soon discover that practically he did not draw his distinctions quite so fine, but was contented to have recourse to mercurial treatment in many obstinate ulcerations, not exactly or strictly comprised within the definition of sores having a hard edge and base; in fact, he abandons his own definition almost as soon as he has made it, for within the space of a few paragraphs he observes, that venereal ulcers have commonly one character, which, however, is not entirely peculiar to them, for many sores that have no disposition to heal have so far the same character.

After all this pretence of accuracy of discrimination what does the learned Astruc say? Why, that if the patient wishes to conceal the origin of the complaint, as (he remarks) is very common with widows, or even with men who wish to preserve a reputation for chastity, you must draw your diagnosis, not from appearances alone. Thus, if in the female you find ulcers on the clitoris, on the carunculæ myrtifomis, or the nymphæ—if they be numerous, clustered together, malignant, and run their course quickly—it is *probable* that they arise from a recent connexion; and the same remarks apply to sores on the prepuce, and especially about the frænum in men. It must be recollected, that although the parts of generation are the usual seats of syphilitic sores, that they may occur in other situations; a common cut on the finger may be infected; the lip and the tongue may also possibly receive the poison. A venereal ulcer of the finger I have seen myself, the origin of which was for a long time denied by the patient and doubted by the surgeon; but its character was afterwards ascertained, and a mild administration of mercury produced a speedy and permanent cure. It would be contrary to all I have before urged if I wished it to be implied that this latter circumstance alone were a proof of the sore having been syphilitic; on the contrary it was the history of the case, and that alone, which led to the treatment. Independently, then, of these situations, the venereal virus may be applied to the organs of generation in man under three different circumstances; it may be applied to a wound, to a non-secreting surface, such as the cutis of the prepuce, or penis itself; or to a secretory surface, as the corona glandis, or glans. Again, we may suppose that the virus is received in every differing state or grade of health, and constitutional integrity; it may have been neglected, or aggravated by the ill conduct of the patient; it may have been permitted to run its course not only unmolested or uninterfered with, but it may have been even thrown out of its natural and usual train by ill treatment, or applications little adapted to its then condition; and, finally, it may be presented first to the inspection of the surgeon under several different stages of its progress. When I have enumerated these varying conditions under which a syphilitic ulcer may be met with, can it be any longer necessary to express astonishment if no definite description can include all the forms and species of these ulcerations; and that, with the exception of one circumstance only, an inaptitude to heal, they may present every variety of appearance which a breach of surface may be supposed to assume?

The next general observation connected with syphilitic sores is the time that may elapse between the application of the poison and the breaking out of the disease. Authors differ much in their accounts upon this point, and it is not wonderful that such should be the case, since we must rely upon the history which the patient chooses to give; and in no other disease are we so often exposed to the chance of imposition. Generally speaking, there will be a considerable difference in the activity of the poison, according as it has been applied to the cutis, to the cuticle, or to the glans itself. Ulceration will take place earlier in the latter situation, and latest of all on the skin of the penis. There are some few remarkable cases related wherein the poison appears to have been inactive for three or four weeks. Mr. Hunter relates two instances of a still more tardy infection: in one case seven weeks elapsed before the chancre made its appearance; in the other, two months. Granting the histories given by these patients to have been true, it is possible that some deranged condition of the general health may have delayed the development of the local disease; in one, the sore appears to have been excited by very great bodily exertion and fatigue. But most commonly it begins to exert its power within a week or ten days after the connexion. The first appearance of a syphilitic ulcer, according to the united testimony of all writers, both ancient and modern, is in the form of a pimple or small pustule, whenever it has been traced to its commencement; which, as I have elsewhere said, appears to me to be a strong argument for the unity of the syphilitic poison. That some sores occasionally commence by a gangrenous spot, or that sloughing takes place very early, is no proof to the contrary, because there can be no reason given why common inflammation, gangrene, or sloughing, should not, under certain conditions of the system, take place in this as well as in any other local disease; and here, as in other instances, the most usual effect is that of superseding the original poison, as will be more fully explained presently. It is singular that these most important considerations should only have been loosely alluded to by Mr. Hunter; that he has, in his method of treatment, advocated only one line of conduct as applicable to venereal ulceration, since he could not but be aware that, in these very different conditions, the use of mercury could not be beneficially resorted to with the same degree of confidence, or even of safety. In fact, no man, in the treatment of particular cases, varied and modified his means of cure more than Mr. Hunter; and his Treatise is chiefly defective, as a practical work, inasmuch as it affords no guide to the student as to when, or under what circumstances, mercury should be administered, or when it should be withheld. Such are the general observations which I have thought it necessary to make prior to my entering into a detailed description of particular forms of ulceration.

It may be generally admitted that hardness is an accompanying mark of all syphilitic sores; that they also usually put on a figure approaching to the circular, and are not necessarily attended with much surrounding inflammation and pain, though they are liable to be attacked by it, and then their sensibility becomes greatly augmented: but there are also a few diseased appearances to which the parts of generation are liable, which it may be as well to endeavour to distinguish from the different forms of syphilitic ulcerations. These are, chiefly, excoriations, herpes either of the internal prepuce or of the cutis itself, common phlegmonous boils, or small apthous-looking ulcerations occurring in clusters; and most of these may come on independently of sexual intercourse, though it is obvious that few men are able positively to assert that this is the case; and hence arises the alarm which any breach of surface on these parts immediately occasions. Excoriations most frequently take place in those persons who have the prepuce long, and where cleanliness is not strictly observed, and the natural discharge from the parts is in great quantity. I have seen these appearances produced without any sucpicion of sexual connexion. In this case the excoriation is often extensive, the discharge profuse, but there is no accompanying inflammation; the part looks as if the cuticle were merely stripped off, and common cleanliness, or at most a wash with a few grains of the sulphate of zinc in water, rapidly gets rid of the discharge, and the excoriation heals. It often happens that in these cases the glans cannot be denuded for a day or two; but by the touch it may easily be ascertained that no ulcers exist within the prepuce, and the injection of the same lotion between it and the glans will speedily confirm this opinion, by enabling the patient to denude that part. There are some men who seldom or ever have a connexion without producing a slight breach of surface. Sometimes this has the appearance of a patch of a grayish colour, without depth or hardness surrounding it, often yielding little or no discharge, at others exuding some moisture; occasionally the excoriation assumes the form of a slight fissure or crack; but in all these cases these appearances are observed either directly or within a few hours after connexion; they are apt to remain in an indolent condition for some days, but seldom show any disposition to spread, unless interfered with by the application of irritating substances. I have found the powdered lapis calaminaris, or a very weak solution of the liq. plumbi acetatis, agree with them best: they heal under this mild management usually with facility, and always without leaving any scar or evidence of their previous existence. In all these cases it will be necessary to restrict the patient somewhat from his usual pleasures, to direct some change of diet, and perhaps to administer a cathartic. Here, then, the early appearance of the sore, its want of depth, (that is, the absence of the ulcerative process) will enable us to form a judgment of the nature of the complaint, and to pronounce at once upon the propriety and safety of treating it by local means; though it does not unfrequently happen that the perfect restoration of the part will occupy a week or ten days to accomplish. Another description of sore is sometimes met with more particularly round the corona glandis, that is, very minute aphthous-looking points, which are sometimes in clusters, and at others extend around the whole of the glans; some will heal whilst fresh ones break out; they are totally devoid of pain, and are best got rid of by the application of the lunar caustic, or a wash composed of the acetate or sulphate of copper in proper proportions. I have known these appearances last a considerable time, but they are not certainly followed by any constitutional affection, and may be trusted entirely to local applications of the stimulating kind. Of herpes preputialis we have an admirable account in Dr. Bateman's Synopsis of Cutaneous Diseases. Herpes may attack the external skin, the inner surface of the prepuce, or the glans itself: in either case it is not difficult to distinguish. It commences with a troublesome itching of the part. On examination, a red patch will be perceived, and shortly after, minute vesicles appear, which are quickly succeeded by others, forming generally a circle. Sometimes the former set heal before the succeeding ones are fully developed; at others, they all congregate together, and form one sore. If they are not seen by the surgeon until this has taken place, and the history of the disease is not attended to, they may lead to an erroneous opinion. The herpes preputialis is often attended with a deranged condition of the health, particularly of the stomach and bowels; and inquiry will often afford us a clue, by showing that the patient has, at other periods, been subject to this eruption in other parts. The treatment of this disease is very simple: a mild saturnine wash, in a very diluted state, forms the best application. The complaint usually runs its course in about a fortnight. When herpes attacks the external skin of the penis, its progress is more rapid, because the parts are not so moist, and a scab is generally formed, which, falling of in the course of some days, leaves the surface underneath perfectly healed. Among the causes of this eruption I have mentioned a deranged condition of the general health; but it is right also to observe, that it has often been met with in connexion with an irritable state of the urethra, or even of permanent stricture, and therefore, whenever it occurs, some inquiries should be instituted as to the condition of that canal; more especially if the eruption recurs at the termination of some weeks or months, as it is often apt to do.

Mr. Evans has described an appearance upon the penis which he believes to be the same that Dr. Bateman terms moluscum: it is a circular swelling, of the same colour as the surrounding integument, and is found to contain a purulent fluid within it. These appearances I have more than once seen: they are not likely to be confounded with syphilitic sores, for, in general, the cuticle shrinks after the fluid is discharged, and, peeling off, leaves a sound surface beneath it. Besides these more distinct affections, authors describe boils, anthrax, and phlegmon, as occasionally attacking the parts of generation: that these may have been mistaken for venereal ulcerations I will not deny, when presented to the surgeon in certain stages of their progress; but the history of the complaint will very generally clear up the difficulty, and when seen from the commencement they are not likely to mislead. One other diseased condition of the prepuce still remains to be mentioned: it is met with in those who have the prepuce long, and consists of cracks, or chaps, in the skin, just at its reflection, attended with much induration, and bleeding frequently upon every attempt to denude the glans. This is called by Mr. Evans psoriasis preputialis. I have usually looked upon it as a form of excoriation, but I am perfectly agreed with him as to the mode of treatment. An ointment composed of the hydr. nitratis, diluted with an equal proportion of spermaceti cerate, will effect the cure, though sometimes it will require some days, or even weeks, to restore the integrity of the parts. I have now described, as accurately as I have been able to do, all those diseased appearances with which I am familiarly acquainted, and which I do not consider as the necessary consequences of sexual connexion, and therefore, *à fortiori*, not deserving of the appellation of venereal sores. I shall next proceed with a description of certain ulcerations to which the term syphilitic more properly applies, since they are followed, when left to pursue their own course, by the acknowledged constitutional affections proper to that disease.

From the Gazette de Sante.

ON THE EMPLOYMENT OF TARTAR EMETIC IN DISEASES.

In one of the November numbers of the above mentioned journal, we find the following summary of what is at present known relative to the employment of tartar emetic *à haute dose,* in the treatment of diseases.

1. Tartarized antimony administered internally, in quantity of from eight grains a day to that of a scruple, of one or even several drachms, is not a poison; it is even never followed by bad effects, except in a very limited number of cases, where its use was manifestly contra-indicated.

2. Whether it could be borne or not by the patient, it did not produce inflammation of the mucous membrane of the stomach and intestines. When there existed indications of this phlegmasia, such as redness of the tongue, pain in the epigastrium, diarrhœa, &c., these symptoms have been frequently seen to disappear during its employment. (*Laennec, Delourmel, Meriadec Laennec, Lagarde, Fontanelle.*) When the patients died, the alimentary canal was ordinarily found free from alteration, and the internal membrane pale or slightly injected. (*Meriadec Laennec, Strombio,*) &c.

3. Tartarized antimony in large doses, is a powerful remedy in *peripneumony*. It is very useful, either as an auxiliary to venesection, or as the only curative means, when sanguineous depletion has failed arresting the progress of the disease, or when it has not been deemed advisable to have recourse to this measure.

M. Peschier has cured all his patients with one exception, without blood-letting, by the use of tartar emetic alone. M. Wolff has employed it successfully, in ten cases, which are all that he has treated. M. Palais in one; M. Prato in two; M. Rasori in fifty-two out of sixty-one cases in his civil clinique, and fifteen out of fifteen in his military clinique.

In regard to the peripneumonies, in which sanguineous depletion and tartarized antimony where concurrently employed, the following is the general result. Rasori cured in his civil clinique, four hundred and forty-four out of six hundred and two; he lost one hundred and fifty-eight; making a mortality of twenty-two per cent. In his military clinique, one hundred and forty-nine out of one hundred and seventy-five were cured; twenty-six died,—mortality, fourteen per cent. M. Laennec, of fifty-seven cases lost two, being rather less than one in twenty-eight. M. Ambroise Laennec lost three out of forty cases, making a proportion of one in thirteen. M. Bang, two out of forty-five—mortality, one in twenty-two. In the greater number of these cases, the tartarized antimony did not excite vomiting, or at least only in the commencement of its administration; in others, it could not be borne at any period of the disease, without this circumstance having always opposed an obstacle to the cure.

4. Articular rheumatism is, next to pneumonia, the inflammatory affection in which tartarized antimony, in large doses, has been most successfully employed. Among a great number of cases treated by M. Laennec, this professor found, that under the influence of this treatment, the medium duration of the disease, was from seven to eight days. Of thirteen cases collected in his clinique, the tartarized antimony was evidently very beneficial in eight; it was useless in two, injurious in one, and of doubtful success in two. (*Meriadec Laennec.*) M. Honoré cured, by means of it, four out of five cases of acute articular rheumatism. (*Lagarde.*) Of fifteen cases cited by M. Delourmel, thirteen were cured by the same remedy. The Osservatore di Napoli contains six other cases of cure, two of which were published by Dr. Spadafora.

5. Tartarized antimony has been given in some other affections, but thus far, the number of patients has been too limited to inspire entire confidence in the results obtained.

M. Laennec cured by this remedy one case of *arachnitis*, three of *acute hydrocephalus*, one of *phlebitis*, three of *chorea*, and two of *angina*. M. Ambroise Laennec has succeeded by means of it, in two cases of *idiopathic tetanus;* M. Recamier in four cases of acute pulmonary *catarrh;* M. Fontaneilles in one case of icterus.

6. Among the other diseases in which the remedy in question has been tried, there are several cases in which it produced no well marked advantage, and some in which it was prejudicial. M. Laennec has observed, that it speedily arrested the inflammatory orgasm in *pleurisy;* but that it did not accelerate the absorption of the extravasated fluid which was its consequence. Of eleven cases of apoplexy, six were cured, but as this professor made use of blood-letting, at the same time, it is uncertain what share is attributable to the tartarized anatomy. (*Meriadec Laennec.*) In one case of *rheumatism,* and in another of *gout,* it was evidently injurious. (*Meriadec Laennec.*) Its employment in *semi-paralytic mental alienation,* has not been followed, in general, by any success. (*Bayle.*)

From the London Medical and Physical Journal.

LITHOTOMY PERFORMED TWICE IN THREE DAYS ON THE SAME PATIENT. By M. Dupuytren. From a Correspondent at Paris.

On the 17th November, an old man was brought into the theatre of the Hôtel Dieu, for the extraction of a calculus, which was followed by one of those disastrous results that occasionally fall to the lot of the most eminent practitioners. The subject of this notice did not, indeed, die *under* the knife; though, after long protracted but judicious efforts on the part of M. Dupuytren, the stone remained the first day immoveably fixed in the bladder. On the third day, a second and successful attempt was made to extract the stone by the recto-vesical method; but the unfortunate patient expired in the course of the night.

Few cases offer more points of instruction to the practitioner than this. The cause of the difficulty was not obscure, but, as it frequently happens, was not detected till it was too late to be remedied the first day; since the patient's state made it then necessary to remove him to his bed, and to defer all further measures to a future day, if he should indeed survive the consequences of the violent irritation and torture which he had already undergone.

It seems hardly necessary to suggest that the only impediment to the exit of a stone, under the hands of so distinguished an operator as M. Dupuytren, must have arisen solely from its extraordinary bulk, and the want of proportionate space for its exit. It will be found, however, that the judgment of the surgeon in the adoption of his method on this occasion, was not altogether free from blame. The size of the stone had been previously ascertained by the introduction of a finger into the rectum, and the application of the hand to the hypogastric region. These were separated by a resisting body for the space of two inches and a half, so that the larger diameter of the stone, and perhaps the smaller one, equalled the usual distance between the tuberosities of the ischia, which is the largest opening through which the stone could be extracted. By a sort of fatality, however, the diverging of the two bones in this patient was less than usual.

The entrance of the staff into the bladder was obstructed by a sonorous body impacted in the neck of this viscus. The sound, on percussion, was audible in the back seats of the theatre; and so completely did the stone fill the cavity of the bladder, that not a particle of urine was retained, and a urinal was constantly worn to receive it *guttatim.* The patient complained of uneasiness in the kidneys, of considerable pain in the bladder, which extended to the glans, where the usual sensation of itching was felt. The disease had, in its present form, existed for ten years; and had been preceded by the discharge of gravel, and occasionally small calculi, through the urethra. At length one became impacted, was broken, and removed with considerable pain. When the gravel ceased to be discharged, the calculus began to form; a fact which M. Dupuytren noted as one of constant occurrence, and the cause of which may be readily conceived.

It was obvious that no ordinary incision could liberate a stone of such magnitude, and the space under the arch of the pubis was evidently not sufficient. The lateral operation was therefore out of the question; and the unnatural approximation of the tuberosities of the ischia in this subject was not very favourable to the recto-vesical incision. Yet this, or the hypogastric, was the method peculiarly called for under similar circumstances, and no alternative remained but to choose between them.

The expediency of lithotrity was cursorily discussed; but, as the principal impediments to success, a stone of considerable size and an irritable and contracted bladder, existed, the negative was immediately pronounced. The difficulty of grasping the calculus by the *litholabe* would have been insurmountable; and, were it otherwise, the numerous operations that would be requisite for the complete perforation and destruction of such a stone, would alone have been sufficient to cause its rejection.

Although an incision above the pubes affords an easy exit for the stone, yet this method is frequently followed by infiltration of urine into the cellular membrane interposed between the abdominal muscles, and thus causes peritoneal inflammation, gangrene, and death. Besides, an impediment might arise from the state of the bladder in this patient: for the extreme, nay invincible, difficulties which have been sometimes experienced in endeavouring to distend a cartilaginous bladder, so as to make it rise above the pubes, might occur in this case; for a bladder, thus diseased and irritable, would not yield in the slightest degree, and the agony of the patient must compel the surgeon to abandon the attempt. A staff is generally introduced to carry the bladder above the pubes; but here it could not pass at the anterior part, and it became necessary to use one of small size, and slightly curved for the space of an inch at its extremity, for the purpose of passing beyond the stone, and of conducting the knife during the operation that was ultimately chosen.

But is the recto-vesical method free from objection and danger? Not altogether. It is followed occasionally by inflammation of the cellular membrane within the pelvis, and sometimes by recto-vesical fistulæ. The mucous membrane of the rectum, unaccustomed to the irritation of urine, might become inflamed by contact with it. The vas deferens is liable to be injured. "But how," says M. D. "can these disadvantages be compared with the dangers of the hypogastric operation, which some are disposed to recommend at the present day, and which nevertheless has been abandoned. It is an undoubted fact that, as often as surgeons have thought proper to renew the attempt, more patients fall victims to the hypogastric than to the perineal incision."

On a balance of evils, M. D. inclined to the recto-vesical method. If fistulæ should occur, he conceived it would be less disastrous than peritonitis; nor would the inflammation of the cellular membrane within the pelvis be so likely to occur as that of the peritoneum.

Nothing could be more judicious than this reasoning; and, though the concluding sentence of an excellent clinical lecture had but just escaped from the lips of M. Dupuytren as the patient was placed upon the table, and prepared for the operation, yet in this short interval an unlucky train of thought, it seems, subverted this decision, and induced him to do that which for three quarters of an hour he had shown to be in the present case objectionable.

The bilateral operation was performed, which differs from that originally proposed only in the *external incision!* This was made perpendicularly in the raphe down to the anus, and the double-bladed bistouri caché was used to divide the bladder and prostate on both sides.

The incisions being lateral instead of posterior, it became impossible to draw the stone in a direction perpendicular to the axis of the pelvis. After long-continued efforts and occasional repose for deliberation, it was found that the stone was unlikely to move; and it became a question whether recourse should be had to the hypogastric operation or to the recto-vesical, or whether the stone should be broken in situ, not by lithotritic, but by mechanical power, which from time immemorial has been recommended in all cases where the stone has been too large to pass either through the incision or through the natural aperture of the pelvis. However, it was deemed advisable to defer all other proceedings at present, and the patient was conveyed back to his bed, in a situation which has been recommended in all cases by those surgeons who, like Deschamps, advise dividing the operation into two distinct periods; a measure, in truth, absurd, and which nothing but unforeseen and pressing events can justify.

The state of the patient, at the close of this calamitous event, was not unlike that of a child operated upon by Franco in the middle of the sixteenth century, and to which we are indebted for the high operation. Had the latter been performed on the present occasion, the resemblance would have been perfect. As the stone in the child had resisted the most persevering efforts for its removal, the surgeon was entreated by the parents to desist, and to abandon the little sufferer to his fate. But, as he states, "*being desirous of avoiding the reproach of having failed*," (a laudable motive!) he introduced his finger into the rectum, projected the stone above the pubis, and extracted it through an incision made into the bladder. The child recovered, but was extremely ill, and the operator had not sufficient confidence in this method to advise its adoption. It remained forgotten or neglected until about twenty years afterwards, when it was brought into notice by Rousset.

M. Dupuytren was evidently distressed at the result; his usual firmness abandoned him, and his countenance betrayed the conflict that was passing within. He immediately explained to those near him the error which he had committed, and on the following morning publicly acknowledged the same to the assembled practitioners and students. How praiseworthy is this candour, and how beneficial to science! How much more do we learn by a cool impartial consideration of occasional errors, than by the ordinary course of unruffled practice. How injurious the notion that the reputation of a man of science can lose from such voluntary disclosures! Can the great and well-merited fame of M. Dupuytren suffer? Certainly not. Enthusiastic as he is in the pursuit of professional knowledge, ever intent upon extending the boundaries of our art, and anxious to relieve the sufferings of humanity, where is the being so malignant or so daring as to utter a word of reprobation, if, in the fluctuating distractions of his mind, in estimating the comparative merits of various methods, his choice should be sometimes erroneous.

On the morning after the operation, no bad symptom had been experienced. The patient had been frequently put into the warm bath, where he remained from one to two hours at a time, according to his feelings. He was twice bled, and leeches had been applied to the buttocks. As the median incision divides no vessels of importance, no hemorrhagy had taken place; the pulse was rather calm; no shiverings had been experienced; no pain or uneasiness from pressing over the bladder: yet the blood was decidedly buffy, although not to a great depth. It was remarked that the patient experienced less pain in voiding the urine than before the operation.

At the close of the second day, pain was experienced in the left iliac region: fear was entertained that inflammation had seized the cellular membrane within the pelvis. No soreness on pressing the abdomen, to which cataplasms had been applied through the day, excepting during the use of the warm bath.

Third day, symptoms seemed aggravated. He had been at intervals several hours in the warm bath, and leeches had been applied in large numbers. The abdomen was distended with wind, accompanied by constant desire to go to stool. This was supposed to arise from the pressure of the stone on the rectum.

In the evening, the sufferings of the patient were increased. The stone had partly descended into the wound. An incision was made through the sphincter ani, as in the rectovesical operation, and, after some difficulty in getting the forceps to hold it, was at length withdrawn.

About midnight the man died.

From the Medico-Chirurgical Review.

RAPIDLY FATAL PEURPERAL PERITONITIS—ATMOSPHERIC CONSTITUTION.

A case of the above kind is communicated by Mr. Dalrymple, of Norwich, to Dr. Farre. We shall state the particulars, before offering any remarks.

A lady, in the 30th year of her age, was delivered of a fine boy, (the fourth child) on the morning of Dec. 17. The three preceding labours had been painful and protracted, the last of the three requiring instrumental aid. On the present occasion, the child was delivered before the arrival of the surgeon. The labour had been rapid and severe. The surgeon left his patient in a tranquil state. At 4 P. M. he again visited her, and all was quiet. An anodyne was prescribed for the night, but was not taken, as the night was spent in easy sleep. A dose of castor oil was taken the next morning, and had acted mildly. At 1 A. M. of the 19th, (the third day, medically computed) the surgeon was summoned in haste. He learnt that, at 8 o'clock in the preceding evening the patient had been seized with a *rigour* and violent pain. He found her with a burning skin—pulse 130, harsh and full—excruciating pain in the belly, which was tense, tumid, and tender to the touch—uterus risen out of the pelvis, and forming a defined tumour in the hypogastrium. Venesectio ad ℥xviij.—mercurial and saline purge—some relief. In six hours more, the surgeon was again summoned. The skin was dry and parched—pulse quickened, but reduced in force—abdomen still more tumid, and incapable of bearing the slightest pressure. No urine having been passed since the preceding evening, a catheter was introduced, but no water was found in the bladder. Twenty-four leeches above the pubes—warm fomentations—blisters to the abdomen—50 drops of Battley's liquor opii sedativus. *Evening.* Much the same state—pain of abdomen rather less urgent, but its sensibility to pressure the same. Patient lies on her back, with her legs extended. Mercurials, aperients, hyosciamus. 20th. *Morning.* Evidently sinking—died at 5 in the afternoon.

Dissection.—The uterus was at least one third larger than usual at this period *post partum*—its peritoneal surface of a light pink colour—the parietes of the uterus very thick, firm, and rather pale—no organic lesion of this viscus. There were slight traces of inflammation observable along the peritoneal surface of the fallopian tubes, as far as the ovaries, which were larger and softer than natural. No trace of inflammation on the peritoneum, or in any other organ or part of the abdomen, with the exception of the right kidney, "which afforded proofs of vascular congestion."

"Here," says Mr. Dalrymple, "is a case entire and complete in all its parts, commencing instantaneously, and with great violence, at a moment when the general system seemed to be in a state of perfect ease and repose; proceeding with frightful rapidity, and terminating speedily, and almost without check, in death.

"Through the great good sense of the friends of the deceased, permission was obtained to inspect the state of the parts; an opportunity most rare and precious in such cases. Suffice it then to observe, that within the space of six or eight weeks, no less than seven cases of fatal puerperal inflammation have either fallen under the immediate personal observation of the reporter of this case, or have been communicated to him; all terminating unfavourably within the short period of fifty hours. Can season, or atmospheric causes, or the 'constitution of the year,' account for this remarkable fatality? In reference to this point, it may not be impertinent to state, on the authority of the intelligent husband of the subject of our case, that an unusual disease has recently prevailed in the dairy department of a large farm in his own occupation; a certain number of cows, calving within a short period, being attacked, the greater part of them, with a malady resembling, so far as we have been capable of judging, the puerperal inflammation, or fever of the human female. Under this disease, the suffering animals were uniformly treated by full and repeated blood-lettings, and all of them eventually recovered.

"A singular coincidence is worthy of remark in this case. The unfortunate subject of this paper took a considerable interest in the treatment and cure of these animals; possibly associating in her own mind the analogy of their disorder with the sufferings which she had experienced in former labours, and which her then similar condition might lead her to anticipate.

"May it not now be asked, whether moral causes may not have so modified the influence and agency of physical causes as to have produced that depressing effect on the general system, which the negative character of the appearances after death has so totally failed to explain?"

We doubt whether the term *peritonitis* be strictly applicable to the above case. Was it a "serious affection occurring after delivery," as described by Dr. Marshall Hall? Was it a puerperal fever modified by the malarious constitution of the years 1826, 1827, and 1828? The following comments of Dr. Farre are highly deserving of attention, for the atmospheric constitution to which he alludes is in full force at this moment.

"If Sydenham had flourished in this era he would have termed the constitution of the years 1825, 6, 7, and 8, intermittent, and it has been combined with an unusual degree of neuralgic affection, from Hemicrania to the most intractable forms of Tic douloureux. A similar combination of disease took place in the year 1809, but has not prevailed for a quarter of a century to the extent which it has done during the last two years. It commenced in the spring of 1825, having been preceded by an unusually humid autumn, during which the north of Europe was flooded to a very alarming extent. It was ushered in by a very fatal peritonitis, both simple and puerperal, in the human subject, and by a still more destructive wet rot amongst sheep."

"It was at the end of February in that year (1825) that an experienced surgeon at the west end of London said to him, that he had lost four patients in the puerperal state during that month, of what appeared to him to be peritonitis previous to the post-mortem examination, which did not explain to his satisfaction the nature of the disease, he having found, in two of the cases, only a little bloody serum extravasated into the peritoneum. He added, that he could not understand it, and was persuaded that more would be heard of it. His prediction was verified. At the east end of London, not far from the river, this disease proved still more fatal during the month of March. One surgeon informed the editor that he had lost seven, another four, in all of which the disease was treated at the instant of its formation by active blood-letting. A physician-accoucheur, who attended in consultation many of these cases, stated to him, that out of thirteen cases eleven died, that all which had been bled died, and that the only two which recovered had not been bled, having been treated by turpentine. The summer proved remarkably dry and hot: during July not a drop of rain fell in London. The intermittents commenced with anomalous inflammatory affections, lapsing into continued fever, and sliding into a quotidian or tertian type, rheumatism, subject to dangerous metastasis, erysipelas of an untoward kind, and some cases of malignant sore throat, which had not occurred for a long period before. The autumnal season was humid, and the continued fevers, falsely called typhoid, and approximating more to the remittent form, proved insidious, the fatal collapse occurring early and unexpectedly. The following summer proved still more dry, there being scarcely any rain even in June, and not less hot, so that the pulse crop failed. The character of disease was less malignant, but the same type was still preserved. Puerperal peritonitis was much less fatal, but even in this year one surgeon at the east end of the town lost seven women, in a very few weeks, under a varied treatment. 1827 being rather cold and humid, intermittents, remittents, and neuralgic affections prevailed in their greatest extent; and to conclude in the language of Sydenham, the constitution of the year has not changed in 1828. This fatal peritoneal disease appears to have borne the same relation to peritonitis that the pneumonia notha does to pneumonia, not only in the serous, or sero-sanguineous effusion, instead of coagulable lymph, but also in the complete inability of the patient to bear the lancet."*

We recommend the foregoing observations to the attentive consideration of practitioners. They entirely accord with our own experience —and they may tend to check the effusion of blood during a constitution of the atmosphere which engenders a host of diseases, aping the purely inflammatory, but bearing very badly the vigorous depletion to which we have been accustomed for many years past.

From the Medico-Chirurgical Review.

ON TRAUMATIC GANGRENE.

To Baron Larrey we owe the division of gangrene into constitutional and traumatic, a division important alike in theory and practice. Though it is not our intention, nor indeed in our power, in the limited space of a clinical article, to enter on a laboured or learned disquisition, yet, before we proceed to particular cases, it is absolutely necessary to indulge in a few, and but few, observations.

It had been found, by experience, that the removal, by art, of a mortified, or rather, a mortifying limb, tended to hasten the fatal event. This was the general result of experience, and from it was deduced as a general rule—to defer amputation till the system itself seemed to call for it, by forming the line of separation, and, as it were, chalking out a path for the surgeon. Founded in truth, the principle, if carried to its utmost extent, is evidently fraught with error, because it supposes that gangrene is ever a constitutional affection, and never a local one. We can easily conceive, that the mortification which creeps upon the limb of an octogenarian, commencing at the toe, and slowly but steadily mounting upwards, depends upon a want of power in the constitution at large, and is not to be cured by lopping off a part. This, as we said before, we can easily conceive; the vis vitæ is enfeebled, by age, or other debilitating causes; the arteries are probably ossified; the heart, which is unequal to the task of supporting the body with the necessary quantity of blood, fails in the parts which are farthest from its influence; the organization, in short, is *dying*, though only by inches; and the surgeon, who expects to revivify it with his knife, must first convert his gallipot into a cauldron of Medea! But suppose we take another case. A healthy young man, "in the hey-day of the blood," is wounded on the field of battle, and, after a certain lapse of time, is affected with gangrene of the limb. The gangrene appearing in the neighbourhood of the wound, sometimes, though rarely, commencing in the foot, (if the lower extremity is injured) rapidly extends, and speedily kills. For the sake of the civilians, we will take an illustration nearer home. A gentleman has the thigh transfixed, or at least wounded, by the shaft of a gig. The limb in a little while grows cold, becomes gangrenous, and dies. The same is observed after compound fractures of the leg, or in fact, as a consequence of a number of accidents. Can any one maintain, for an instant, that the gangrene of the octogenarian, or that which occurs idiopathically in a half-starved, miserable wretch, is identical, is similar to that which follows close upon a wound in a young and a healthy individual? The causes, the progress, are different; then why should the treatment be the same?

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* Journal of Morbid Anatomy.

In the following extract from the excellent work of Mr. Guthrie on Gun-Shot Wounds, the question is met so fairly and fully, that we cannot resist the pleasure of transcribing it.

"A cannon-ball, striking a limb, destroys the life of the part, in a greater or less degree, according to the extent of the injury effected; if the blow be received on the middle of the leg, the bone broken, the arteries divided, or rendered incapable of carrying on the circulation, mortification takes place in the foot, because it is deprived of its usual support; it is possible, however, that this may not follow immediately, as it may not be entirely deprived of blood, which passes into it in small quantity from the parts above, connecting it with the rest of the extremity. The parts immediately above those actually struck by the ball have received a very considerable shock, and their sensibility is much impaired; and, when any action takes place in them, they will sometimes be found unequal to sustain it; and as the action attempted to be set up is inflammation, the failure of support causes it to fall into gangrene. It is, however, a failure of support, not from want of power in the constitution, exhausted by a serious struggle, but from incapability of the parts to maintain it. The extent to which this debility of parts may extend is uncertain, and the limits to the mortification must be so likewise, if left entirely to nature: it is evidently a struggle on the part of the constitution to reanimate the drooping powers of the part, which are unable to bear the assistance attempted to be afforded them. Inflammation then precedes the mortification, the limb swells, and has every appearance above the wound, as the disease advances, of humid gangrene. It began as a local disease, the part being simply unable to live, and nature having received a shock, as I conceive, entirely through the nervous system, and not by the absorbents, endeavours by means of an additional supply of blood (as she invariably does in every case of injury) to recover the parts in jeopardy, to renovate their strength. If the parts are capable of bearing this, healthy inflammation is established, and the mortification ceases. The disease is, from the moment inflammation is *established*, no longer local, the constitution is beginning to be implicated; and, if the struggle be continued, it becomes a case of mortification, dependent, according to my principles, on constitutional causes. Nature seems to suffer in the deprivation of the principle of life whenever she becomes sensible of the death of any part of the body, and in a greater proportion than would seem to be commensurate with the supply of that part in a state of health; she becomes weakened of course more by the death of a part than by its amputation; and upon a principle connected with life, which we cannot explain. When the inflammation commences, the great point for observation is whether the power of the part can or cannot maintain and carry it on to the healthy, adhesive, and ulcerative stages. If nature can accomplish this, she ought not to be interfered with; but if it appear that the part is incapable of supporting the efforts of nature, or, what is worse, that she is incapable of making them; is she to be allowed to exhaust herself in a fruitless struggle, or is assistance to be given the instant the inability of the part is seen, and just as the powers of nature are displaying themselves? I have no hesitation in saying, that the disease is yet a local one, nature is only showing what she will do if properly seconded; and that, if her efforts are directed to sound parts, capable of sustaining them, she will be able to make a sufficient and successful struggle. Amputation, then, is to be performed in sound parts, to which the usual efforts of nature will be directed; and, if they be unbroken, or only impaired by the previous injury, the result will be fortunate: but the inflammation will not be sufficiently powerful to be able to stop at the adhesive stage, union will not take place to any extent in the stump; suppuration should therefore be encouraged as a natural consequence, and no more adhesive straps should be applied than may be sufficient to keep the parts together, so as to prevent retraction. Warm fomentations and poultices should be preferred to cold applications, and the ligatures should all be cut short."

Dr. Hennen remarks, in his valuable work on Military Surgery, that to wait for the line of separation, is, in many cases, "to expose the patient to certain death;" a sentiment in which the most eminent surgeons of the day are almost universally beginning to agree.

We shall now advert to some interesting and properly authenticated cases, in which the operation has been had recourse to, prior to the appearance of a line of separation. Passing over the examples given by Baron Larrey, the first we shall notice is detailed in the work of Mr. Guthrie.

Case 1.—A man received a blow on the back part of the leg, which stunned him, and brought him to the ground. On endeavouring to move, he found himself incapable of stirring, and the sensibility and motion of the limbs were lost. The leg gradually changed to a black colour, and when the man was carried into Brussels, the limb was apparently mortified as high as the knee; the skin was not abraded; the swelling not so great as in cases of humid gangrene; no appearance whatever of a line of separation. The inflammation appearing to be slight, amputation was performed by Mr. Campbell, at the request of Mr. Guthrie, immediately above the knee.

"On dissecting the limb, I found that a considerable extravasation of bloody fluid had taken place below the calf of the leg, and in the cavity thus formed, some ineffectual attempts at suppuration had been made. The periosteum was separated from the tibia and fibula; the popliteal artery was, on examination, found closed in the lower part of the ham by coagulable lymph, proceeding from a rupture of the internal coat of the vessel. Two inches below this, the posterior tibial and fibular arteries were completely torn across, and gave rise, in all probability, to the extravasation."

The operation succeeded, but the patient, at a subsequent period, died of dysentery. From the closure of the popliteal artery by coagulable lymph, the conversion of the extravasated blood into a sanious fluid, and the attempt which had been made at suppuration, Mr. Guthrie concludes, that the internal parts were not entirely deprived of life by the blow, but died shortly afterwards, without much effort from nature to prevent it. Here amputation was delayed until the constitution was somewhat affected, although the operation "ought to be performed as soon as the extent of the injury can be ascertained, in order that a joint may not be lost." For our own parts, we never saw a case of gangrene (traumatic,) unattended with considerable disturbance of the system from the very first stage to the last. The rule, we should imagine, is to operate, as soon as the gangrene is established, care being taken, of course, to amputate above the seat of *injury*. The separation of the periosteum, from the tibia and fibula, is a curious item in the foregoing dissection, though we once saw a similar, or very nearly similar appearance.

Case 2.—A boy, in jumping across a ditch, fell and produced compound fracture of the bones of the left leg. He was soon afterwards brought to St. George's Hospital, when the limb was placed in junks, and union of the wound, which was trifling, attempted. On the 18th, two days after admission, he complained of very great pain in the leg, and the bandages were loosened in consequence. On the 19th, some uneasiness remaining, the tails of the bandage were entirely cut away, and common simple dressing applied. At this time, he complained of some numbness of the foot, but little attention was paid to the circumstance. On the morning of the 20th, gangrene had appeared, commencing at the wound, and spreading thence downwards towards the foot, and upwards to within a little distance of the knee. The features were shrunk—pulse rapid—delirium. The gangrene continuing to spread, Mr. Brodie performed amputation as high in the thigh as could conveniently be done. The patient sustained the operation very well; whilst the state of the pulse, and anxiety of aspect, were decidedly relieved on the removal of the limb. The improvement, however, was transient and deceitful—tetanus was developed next morning, and, in little more than six and thirty hours after the performance of the operation, the boy was no more. At the wish of the friends the body was not opened, but the stump showed no traces of gangrene whatever. The limb that was removed presented some curious appearances. All the soft parts which composed it, especially the muscular and cellular textures, were more or less disorganized. The fracture of the bones was not very severe, but the fibula was entirely separated from its periosteum, from the fracture to the epiphysis, and down to the malleolus. The separation was so complete, that, on cutting the periosteum, the bony shaft *fell out*. The same thing was noticed with the tibia, though not to so great an extent. The cartilages of the knee-joint were somewhat ulcerated; the sheath of the great sciatic nerve was studded with many little ecchymosed patches.

At first sight, this case would appear to be unfavourable to the question of amputation, though in fact, it proves little, either for or against it. After the patient's decease, it was discovered, that symptoms of tetanus had partially shown themselves *before* the operation was performed, thus totally destroying all chance of its success. It was argued, on the other hand, that the measure was borne out in *principle*, because the mortification had not attacked the stump. The boy, however, died in thirty-six hours, too early, we should think, for gangrene to come on, particularly as, during a great part of the time, the attention of the constitution was fully taken up with another and violent disease.

In France, the opinion of the faculty is determined on the necessity of immediate amputation in cases of traumatic gangrene. M. Dupuytren, who seems to give the tone to the surgical voice in that country, invariably performs the operation.

Case 3.—A middle aged man, in a state of intoxication, was thrown to the ground by a cart very heavily laden, the wheel passing over the thigh, and causing a comminuted fracture of the femur, *without* an external wound. Enormous tumefaction, and violent inflammation immediately followed, in which state the man was received in the Hotel Dieu, and placed under the care of M. Breschet. The limb was *cold,* the patient delirious, and obstinately refusing to submit to amputation. This being the case, the fracture was reduced, and the thigh put up in M. Dupuytren's apparatus, but the patient could not be kept quiet, and consequently deranged the bandages and dressings. Phlyctenæ now appeared upon the leg; gangrene attacked the foot and then mounted to the leg and lower part of the thigh; the weakness was excessive; the pulse small and frequent; the belly tense and painful; the liver enlarged and felt below the ribs; the skin icteritious; the bowels very loose: the delirium so furious, that the patient required the application of a straight-waistcoat.

M. Dupuytren, disposed as he was to amputation, hesitated here, on account of the violence of the constitutional affection, and the very great engorgement of the textures of the thigh with extravasated blood. The operation was, therefore, deferred. The condition of the patient now took a favourable turn, the icteritious hue of the surface diminishing, the belly becoming less tense, and above all, the gangrene being *bounded.* The patient now was as urgent *for* an operation, as he had hitherto continued *against* it, and, notwithstanding the faint probability of success, M. Dupuytren complied. On the 25th of April, amputation was performed at the upper third of the thigh, by M. Breschet, the incision passing through muscles infiltrated and engorged, and pus flowing out from the cellular texture between them. The patient grew so weak upon the operating-table as to require to be supported with wine, and subsequently died.—*Clinique.*

Here we see a boundary actually formed, before the performance of the operation, which totally failed notwithstanding. When the man was received in the Hôtel Dieu, the limb, we are informed by the reporter, was cold, and the constitution but little affected. This was the time for operation, if any, and we doubt whether the repugnance or refusal of a patient who was delirious, perhaps but half-recovered from his previous state of drunkenness, should absolutely deter a surgeon from its performance, provided he was fully convinced of its necessity. The question, however, is as delicate as difficult. We cannot but agree with M. Dupuytren in refusing, as he did, to advise amputation at a time when the general symptoms were so violent. The probabilities, in such a case, are greatly against us. From what we have seen, as well as from what we have read, we believe that, in traumatic gangrene, the symptoms are at times so acute, the local disease so violent and rapid in its progress, that no operation will succeed. It is the milder form of the affection which admits of the use of the knife. The symptoms, however, may be violent, without, in the first instance, the delirium, intermission of the pulse, and other characteristics of fatal prostration. In these cases, the inflammation would seem to incline to the phlegmonous, rather than the erysipelatous; the condition of the system to be inflammatory, rather than typhoid.

The following case has excited a considerable sensation in France, and was argued before the Cour Royale of Metz.

Case 4.—A native of Villers, in the department of Moselle, received a compound fracture in the middle of the left leg, with projection of one of the extremities of bone. The medical man in attendance, reduced the fracture, and put up the limb in the ordinary way, but on the sixth day after the occurrence of the accident, Dr. Ribelotte-Lablesse was summoned to the patient. The dressings were removed, and the leg, the knees, and lower part of the thigh, were discovered to be cold, black, livid, and completely gangrenous; the pulse was small and weak; the general condition of the patient most alarming. Without amputation no hope remained; for during the time the consultation was going on, little more than an hour, the gangrene had spread two inches up the thigh. This being fully explained to the parents, and the desperate nature of any operation acknowledged, they unanimously prayed for its performance, let the risk be what it might. Amputation of the thigh was accordingly performed, and, after a tedious convalescence, the patient completely recovered, and at present continues in excellent health.

It might be thought that so bold and happy an attempt, would at least have secured a trifling remuneration for his service to the operator. The ingratitude, however, on the part of the public, which Hippocrates complained of two thousand years ago, pursued Dr. Lablesse on the present occasion, and compelled him to appeal to the laws of his country, to obtain, by their means, what his patient unjustly and roguishly withheld. The cause coming on before the Cour Royale of Metz, the court directed a commission to be formed of three of the principal physicians of that city, in order to determine the merits of the case. Subsequently, M. Chaussier was directed to give an opinion on the subject, which he did in a published medico-legal consultation. This opinion, we need scarcely add, was in favour of Dr. Lablesse's operation, and somewhat to the confusion of his dastardly brethren, who stupidly and malignantly had egged on the family to resist his professional demand. The cases related in M. Chaussier's Thesis we omit; but one which is given by Dr. Buet in the 82d number of the Clinique, deserves to be recorded. It illustrates well the frightful and fatal rapidity of traumatic gangrene, when left to itself, and affords a strong, though a *negative* proof, in favour of the operation.

Case 5.—In the month of August, 1820, a soldier, repairing to his regiment, fell from the top of a heavy carriage, the wheel of which grazed along his leg, detaching all the soft parts composing the calf, and exposing both bones, which were not at all fractured. This was at six P. M. and the soldier was conveyed to a neighbouring cabin, where the wound was covered with powdered charcoal. Next day he was carried to the Hospital of St. Jean-de-Maurienne, in Savoy, distant about a league from the spot where the injury was received. Gangrene had already invaded the foot, leg, knee, and part of the thigh; the pulse was full, strong, and not very rapid; the skin burning hot, and tinged rather yellow; the prostration of the system considerable. The surgeon, a kind of fatalist, gave up all for lost, and merely ordered, for form's sake, some tonic and stimulant remedies internally, with fomentations of camphorated spirit and pulvis cinchonæ to the wound. At noon that day, the gangrene had spread to the crest of the ilium, many livid spots appeared on the hypogastrium, and at five in the evening, *twenty-three hours* after the accident, the patient expired.

There are few who will dispute that the above, in the first instance, was a tolerably appropriate case for operation. A very few hours decided the fate of the patient, the inflammatory state very rapidly passing, by its own excessive violence, into the typhoid. A similar, though not so acute a case, occurred some time back at St. George's, and was not considered fit for operation by the surgeon.

Case 6.—A muscular man received a compound fracture of the left thigh, about two inches above the knee-joint; much hæmorrhage occurring at the time of the accident, and the fracture appearing to be much comminuted. The limb was placed on the double-inclined plane, cold lotions were applied, and the day after his admission, the limb being much swollen and reaction considerable, he was twice bled, to the extent of sixteen ounces, from the arm. On the morning of the third day he was seized with delirium, and the thigh had become emphysematous. *Anodynes with spiritus ætheris and camphor.* On the fourth day, mortification was developed, and the patient sank upon the sixth.

On dissection, the body, from the top to the toe, was blown up to the most extraordinary degree, with emphysema. The mortification had extended on the left side a little way up the abdomen, involving the scrotum, the penis, and nates. The femur was broken transversely an inch and a half above the knee-joint, into which the condyles had been split perpendicularly. The cancelli of the bone, the vasti, cruræus and other muscles around, as well as the cellular membrane immediately in the neighbourhood, were gorged, and injected with grumous blood; sanious matter was contained in the knee-joint, the femoral and popliteal vessels appeared to be sound; but some of the articular, or anastomotica magna arteries, or both, had been torn or divided. The cellular texture, especially that dipping down between the muscles, as well as the muscles themselves, were extremely emphysematous. Other than this, the muscles and textures of the thigh were very healthy. The viscera of the thorax and abdomen were natural; the head was not examined.

The absence of disease in the deeper-seated textures, even when the gangrene had fully run its course, seems to be in favour of an early operation. Mr. Rose, and his colleagues, however, thought otherwise, and doubtless, had sufficient reasons for their opinion. The case which we abridged in the last number of the Journal, from the clinical report of Dr. Ballingall, is, if any thing, favourable to the question at issue. Amputation was performed by Mr. Liston, and the patient survived for nearly a fortnight, dying, at last, neither from the effects of the operation nor original disease, but those depositions in the liver and the lungs which really would seem to have grown epidemic, since the publication of Mr. Rose's paper on the subject!

Previous to concluding the present article, we shall briefly allude to some other examples of successful amputation, scattered here and there in various publications. At page 155 of our 17th number, we copied from the Edinburgh Journal the case of a soldier, attacked with gangrene from the knee to the instep, after compound fracture of the tibia and fibula. Prior to the performance of the operation, the gangrene had gained the middle of the thigh; the stomach was irritable; the countenance sunk; the pulse low and weak. Amputation was performed by Mr. Macdermott, immediately below the trochanters, with success, though a good deal of sloughing occurred about the stump. The gangrene had commenced on the sixth morning after the infliction of the injury.

Dr. George Busche, assistant-surgeon in the army, has, also, put on record two successful cases.

Case 7.—A miserable woman, five and twenty years of age, was admitted, in the spring of 1823, into the Richmond Hospital at Dublin, with dislocation of the foot, and rupture of the ligaments. In the course of 18 hours, gangrene appeared, and spread with activity, attended with prostration of the bodily powers. In the morning of the third day, after the occurrence of the accident, amputation was performed, by Professor Todd, below the knee, and the patient perfectly recovered.

Case 8.—A bricklayer, at Chatham, 28 years of age, fell, on the 12th December, 1827, from a scaffold 47 feet high, and received a dislocation of the right femur upwards and backwards, a dislocation of the knee also backwards, and compound dislocation of the ankle-joint! Carried to the hospital, he was seen by Messrs. Hope and Bryant, who reduced the dislocation of the knee, dressed the wound in the foot, and put up the limb in the position of semi-flexion, after having fruitlessly endeavoured to reduce the luxation of the femur. All went on well, with care, and copious bleedings from the arm, until the third day from the occurrence of the accident, when a gangrenous spot appeared in the vicinity of the wound. In the evening, when the patient was visited by Mr. Bushe, the whole leg was covered with phlyctenæ, the thigh tense and tumid, the cellular membrane of the lower part of the abdomen in a state of emphysema. The body was cold, and covered, in parts, with a clammy sweat—the tongue quivering, the pulse weak, collapsed and rapid.

Under these circumstances, amputation of the thigh was performed just below the trochanters, a good deal of blood being lost during the operation. We shall not pursue the details of the case; suffice it to say, that the stump healed well, and the patient left the hospital completely cured.

We shall now conclude this article, certainly prolonged to a greater length than, at first, we expected it would have been. The labour of collecting these cases from so many various sources, has not been inconsiderable, and we hope is not utterly mis-spent. The result is decidedly in favour of the operation in traumatic gangrene, without waiting for the appearance of the line of separation. That the question is one of great interest no one will deny, however unimportant and useless it may seem to the mechanical and routine practitioner. The conductor of a medical journal finds, like the old man and his son in the story, that endeavouring to please all is a hopeless piece of business. Some would have only plain matters of fact, things which are constantly occurring in practice—others would consider this absolute dulness—and others again, can read or relish nothing, except gladiatorial exhibitions of personal abuse:

Hopes sapp'd, name blighted, life's life *lied*
away!

We firmly believe that the latter class is daily diminishing in numbers, and the body of the profession acquiring a more wholesome literary taste. The time is passing by when science to be palatable, required to be tricked out in the meretricious attire of slang and ribald jest—it is passing, and we trust that it never will return. To go back to the subject of the present paper, we scarcely believe an apology required for dwelling on the higher parts of practice, as well as on the lower; for if either is neglected, much mischief will result. To dwell on nothing but every day, commonplace topics, would destroy the scientific character of medicine, and degrade it to the level of a vulgar trade, a consummation never to be wished for.

Gangrena Senilis.

Doctor Victor Andry has lately published a long memoir on Gangrene, and more especially the spontaneous, or Senile Gangrene, described by Pott, and other writers.

The Doctor undertakes to demonstrate that all gangrenes, under whatever form they present themselves, are referrible to one proximate cause—the cessation of the circulation in the part affected, All the occasional causes of gangrene, he maintains, act in the same manner, namely, by producing a mechanical obstruction to the course of the blood, or inflammation of the vessels themselves. This last, he avers, is the most frequent cause of gangrene, and that by interruption of the circulation. The experiments of Kaltenbrunner, and many others, prove that in all inflammations, there is a portion of the part inflamed, in which the circulation is nearly, if not quite stagnant. If the inflammation be very violent, or if, from some other cause, the circulation be not re-established in the minute vessels, gangrene, of more or less extent, ensues.

In respect to the gangrena senilis, or Pott's gangrene, Dr. A. observes that the cessation of the circulation, in consequence of inflammation of the vessels, has not been generally acknowledged as the cause. Although the disease is certainly much more frequent among old than among young people; yet it is occasionally seen in all periods of life—and, in all cases, he maintains, it is owing to inflammation of the veins. M. Baffos lately communicated to the Royal Academy of Medicine, the case of a young woman, 20 years of age, affected with dry gangrene of the feet, attended with excruciating pains, but without any change in the colour or in the temperature of the skin. On dissection, the veins of both the lower extremities were found inflamed, and filled with a kind of substance that adhered most tenaciously to the internal surface of the vessels. M. Leveillé has reported a somewhat similar case. The spontaneous gangrene was seated in the left leg. On dissection, they found the external iliac artery and the crural vein intensely inflamed and very much thickened, being lined with a fibrinous substance which did not, however, obliterate the caliber of the vessels.

The doctrine of ossification of the arteries, as the cause of the gangrena senilis, is not always borne out by facts. Bichat has shown that, in few individuals, after the age of 60 years, are there wanting traces of ossification of the arteries. In fact, there are many cases recorded, where the arteries of limbs were completely ossified, without any symptom of gangrene being present.

Without stopping to examine the symptoms and progress of this painful and generally fatal disease, we shall come at once to the principles of treatment—principles which flow naturally from the proximate cause here laid down.

"When then," says the author, "severe pains have preceded the appearances of gangrene, with hard and full pulse, watchfulness, &c. we may conclude that there is inflammation of the arterial or venous coats, and we ought to have recourse to blood-letting, both local and general, if the strength of the patient will permit, together with stimulating frictions and fomentations on the surface of the parts threatened with gangrene."

The following case, communicated by M. Dupuytren, from the Hôtel Dieu, will put the good effects of depletion in a clear point of view.

Case.—A female, aged upwards of 60 years, was received into the Hôtel Dieu, and there remained nearly a year, for the treatment of gangrena senilis, affecting the toes of the left foot. Acute and long-continued pains had preceded the gangrene, and deprived the patient, for some months, of sleep. The toes of the foot were like those of a mummy, while the neighbouring parts were of a violet colour, and emitted an insupportable smell. For the first few months of the patient's sojourn in the hospital, opium, bark, and a variety of remedies were tried, without the least benefit. On the contrary, the disease made progress. The whole foot, soft and hard parts, were stricken with the gangrene. The state of the heart, the lungs, and the great arteries was carefully examined, but no deviation from healthy function could be discovered. M. Dupuytren now, being tired out with the various anodyne and tonic remedies usually employed, determined on opposite measures. Eight ounces of blood were taken from the arm. The pains were mitigated—and some sleep was procured. In fact, the patient experienced more relief from this bleeding, than from all the other remedies put together. This amelioration lasted nearly a fortnight, when the pains began to resume their former severity. The bleeding was repeated, and with the same good effects as before. After this, phlebotomy was had recourse to, whenever the symptoms were distressing; and, by this measure, the progress of the gangrene was arrested, the mortified parts separated, and the patient was discharged cured.

Since the above period, a great many people affected with gangrena senilis have been treated in the same manner, and always with success. M. Dupuytren concludes by recommending the depletory treatment, whenever the disease is attended with severe pain, considerable tumefaction of the neighbouring parts, fulness and hardness of pulse, and flush of the face. We think there can be no doubt that this is sound advice.—*Journ. de Progrés.*

From the London Medical and Physical Journal.

DIFFERENT MODES OF CURING ONYCHIA MALIGNA, (*Ongle rentré dans les Chairs.*) By M. Dupuytren, at Hôtel Dieu, and M. Boyer, at La Charité. By a Correspondent in Paris.

Of all the maladies that human flesh is heir to, this malignant ulceration of the ambient parts of the nail is assuredly one of the most distressing, and until lately was one of the most untractable.

From the days of Albucasis and Paul of Ægina, down almost to the present period, it has contrived to baffle the wit of surgery; and, if we may judge from the absence of any correct and *original* account of the disease in our own language, it would seem that the English practitioner is as reluctant to put it on record in print, as he must have been to meet with it in practice. For many years past, it appears to have engrossed the attention of continental surgeons only. It is to them that we are indebted for the original of an account published by Mr. Wardrop, in the Medico-Chirurgical Transactions. The tearing away of the nail there recommended has been the practice of the French surgeons since the names of Pelletan and Dupuytren have been known to science. If to this we add the red hot iron, or the solution of mercury in nitric acid, we supply an epitome of the best surgical treatment of onychia on the continent for many years past. Yet, in spite of the cautery, and the cauteries, employed for the purpose of preventing the reproduction of the nail after avulsion, which is accompanied by a recurrence of the ulceration, the relapses were so frequent that the disease, in all the severe forms, became the despair of the surgeon.

At length it was discovered by M. Dupuytren (or supposed to be the fact,) that it could *only* be cured by the complete excision of the matrix of the nail, together with the whole of the morbid part.

Such is the treatment pursued at the Hôtel Dieu; but M. Boyer, at La Charité, denies the necessity of this very painful operation, and is equally averse to cauterization after the tearing away of the nail. The reproduction of the nail, together with the disease, he asserts may be prevented by strong and long-continued compression of the matrix, by means of plaster slips. If, however, from want of sufficient compression, or of method in the application, the nail should protrude, it must be instantly removed by the dissecting forceps, and the compression be commenced *de novo.*

M. Boyer is very great authority: we have therefore thought it right to add his protest to the necessity of one of the most painful proceedings we have witnessed in the shape of a surgical operation; and, having so done, it becomes equally our duty to communicate the particulars of the method which is employed by M. Dupuytren.

Let us first remark, that, in its simple form, we have seen the disease frequently cured by the removal of the nail only, or even a part of it. In this state it is characterized by slight excoriations, or ulceration or fissure, at the edge of the nail in which the latter is imbedded. The pain is often exceedingly acute, with inflammation of the surrounding integuments. The edge of the nail is sometimes eroded, and the nail frequently becomes yellow or ecchymosed, and as it were mortified. In this form of the disease the matrix of the nail is unaffected; but, in the more severe form, it seems to be primarily affected. The ulceration is generally of a fungous nature, bleeding at the slightest touch, often proceeding to the bone, which becomes carious, and requires amputation. The pain of the limb is often intense beyond description.

Whether these two forms of the disease are mere variations in degree, is a question "*adhuc sub judice.*" M. Dupuytren thinks they are essentially different; especially as the one may be cured by avulsion of the nail, either wholly or in part, and the other requires the excision of the diseased matrix.

Case, *unsuccessfully treated by Avulsion of the Nail, cured by Excision of the Matrix.*—A woman met with an accident on the toes; they inflamed, became intensely painful and ulcerated. Leeches, fomentations, and poultices were applied, which mitigated the inflammatory symptoms, but the ulceration refused to heal. At length it became of a sanious character, bled constantly, and the surrounding parts were greatly tumefied and painful, and the edge of the nail was deeply imbedded in them.

M. Dupuytren determined on the removal of the nail, for which purpose he thrust one of the sharp-pointed blades of a pair of straight scissors up the centre of the nail to its extremity, and cut it in two. With a pair of dissecting forceps he took each angle of the incised nail successively, everting it backwards towards the matrix, and tearing it away. In a fortnight after the operation, the ulcer was quite healed; but at the end of six weeks the nail was reproduced, and the disease recurred in the form of fungous and excessively painful ulceration. It was now determined to extirpate the matrix. An incision was carried down to the bone on the back of the toe, about five lines from the root of the nail, and, by continuing the dissection, the matrix and all the diseased mass were removed. Cicatrization proceeded rapidly, and the cure was completed without relapse.

If, after the healing of the wound resulting from the operation, or during its progress, a portion of the nail should be reproduced, this is a proof that a portion of the matrix has been left behind, which must immediately be extirpated by the knife.

If, in the partial onyxis, one side only be affected, the whole nail need not be removed: it may be slit up near the edge, and the diseased portion everted, as in the case above cited.

From the Medico-Chirurgical Review.

AMPUTATION AND EXTIRPATION OF THE UTERUS.

In various numbers of this Journal we have given accounts of the above very formidable operation, which has not, till of late years, been performed in this country. We fear that British experience has now decided against the repetition of the operation, by any man who has reputation to lose; or, who conscientiously weighs the uncertainty of diagnosis, and the sufferings of the patient against the prospect of success. The operation has now been performed five times in this country—thrice by Dr. Blundell—once by Mr. Banner—and once by Mr. Lizars. Of the operations performed by Dr. Blundell, one only has been published—and that the successful one. It is stated in the Medical Gazette, that in the first case, the patient died—and if so, we call upon Dr. Blundell, in the name of humanity and science, to publish that case—and we hope Dr. Blundell will also give satisfactory reasons why the unsuccessful case was not published before this time? We have heard many of our brethren inquire, whether Dr. Blundell has preserved (but how can this be doubted?) the uterus which was removed in the case where the patient survived; and whether he will favour the inquisitive pathologist with a sight of the preparation? It is of great importance to know, whether, in these successful cases, the uterus was *really* cancerous—and we cannot, for a moment, doubt that Dr. Blundell will be happy to exhibit the diseased organ to any of his professional brethren who may be curious to examine it. In the third case, operated on by Dr. Blundell, we understand the patient expired in nine hours after the operation.

In Mr. Banner's case, the operation was performed on the second of September, in the presence of several medical gentlemen, at Liverpool, and appears to have been dexterously managed; nevertheless the patient died on the fourth day. Mr. B. states, that the uterus was much larger than natural, and that "several *tubercles* of various sizes were loosely attached to the body and fundus." When we consider how very rarely carcinoma and tubercles are found in the same organ, we cannot but doubt the existence of real cancer of the womb, in the foregoing case, though "ulceration had taken place on the os uteri," and "a section of the uterus exhibited the common appearances of a scirrhus."

The operation performed by Mr. Lizars is not yet decided; (20th Oct.) but we much fear that, if the whole uterus has been removed, the event will be fatal. It is now three years since we freely expressed our opinion on this operation. In the third volume of the present series, p. 264, the following passage occurs. "*We consider the extirpation of a uterus, not previously protruded or inverted, one of the most cruel and unfeasible operations that ever was projected or executed by the head or hand of man. We are very far from discouraging bold or untried operations; but, there is a line, beyond which it may not be prudent to go, even should a solitary instance or two of success rise up as precedents to bear out the operator.*" *July*, 1825. Sincerely do we regret that our prognostications have been but too truly confirmed by the attempts of bold, though perhaps incautious practitioners of the present day. We cannot believe that the total ablation of the uterus will ever again be attempted in this country.

P.S. Since the above remarks were written, we have received Mr. Ashwell's new work on Parturition, in which Dr. Blundell has given a summary account of the first and third, or unsuccessful operations. We here insert them.

"*Case* 1.—Mrs. A. B. æt. 33, the mother of six children, the last born *seven* years ago, of constitution naturally healthy, came under my observation, reduced by malignant disorganization of the neck and mouth of the uterus and upper part of the vagina. There was ulceration, flooding, copious watery and offensive discharge, the constitution was giving way, and it seemed probable life would not be protracted beyond one or two months. Assisted by Mr. Callaway and Mr. Martin of Horsham, I extirpated the uterus, together with the diseased portion of the vagina, the woman living for thirty-nine hours afterwards, but never thoroughly rallying. She expressed herself highly gratified with the relief of her central pains, but the skin remained clammy, the pulse ranged between 135 and 145 in the minute, small and weak, and there was a continual feeling of debility, mixed with that kind of composure which is so often observed at the fatal close of puerperal fever. Though no ligatures were applied, only six or eight ounces of blood were lost during the operation. The womb was as large as a goose's egg. All parties were candidly informed of the great danger of the operation before it was undertaken, and the patient herself was anxious that it should be attempted, as she felt without other hope. From examination after death it appears that the diseased mass was entirely removed, without any injury to the intestines, bladder, ureter, or urethra. Mr. Green and Mr. Callaway very carefully inspected the body. The bladder was fallen into the chasm, formed by the removal of the uterus, so that it lay upon the front of the rectum, and closed the head of the vagina. In the cavity of the pelvis there were two or three ounces of bloody serum, which might have been easily discharged by passing the finger between the bladder and rectum: the formation of adhesions was begun."

Case 3.—Mrs. ———, æt. 40, of dark complexion, spare made, and the mother of several children, was labouring under scirrhosity and thickening of the neck of the uterus and about a quarter of the vagina above, with some ulceration, and feeling herself in a state of rapid decay; she was, together with her friends, after the failure of other means, anxious that the operation should be tried.

" The vagina was lax and the uterus moveable. The dangers and the uncertainties inseparable from the removal of the uterus, in the present state of abdominal surgery, were candidly laid before all parties concerned. Mr. Green of St. Thomas's Hospital, and Mr. Morgan of Guy's Hospital, considering that the constitution was not unfavourable for an operation of this kind, the patient still persevering in her wish, the parts consisting of the whole womb and the upper part of the vagina were removed. When the sides of the vagina and broad ligaments were cut through, the principal hæmorrhage occurred, amounting perhaps to nine or ten ounces of venous blood. When the uterus was drawn down, the principal pain and collapse were produced. After the operation, the pulse became for a few minutes imperceptible at the wrist, afterwards gradually returning and ranging between 125 and 130 in the minute, with occasional though not frequent intermissions. Large doses of the tinct. opii. were given, and the patient lay for the most part composed, with occasional slumbers: now and then tendency to restlessness was observed, although a complete rally could not be obtained. From the time of the removal of the parts the patient went on sinking, and died at the end of about nine hours, without scarcely a struggle. An examination instituted next day by Mr. Green and Mr. Morgan, proved, that the intestines, bladder, and ureters, remained uninjured. Some two or three ounces of clotted blood were found in the cavity of the pelvis, in a situation admitting of easy removal through the outlet. The womb was twice as large as in Mrs. Moulden's case, and the vessels, as appeared from examination of the womb itself and of the parts within the pelvis, from which it had been separated, were of considerable size, especially the veins. Death here seemed to be produced partly by the loss of blood, but mainly by the shock of the operation."*

From the Edinburgh Medical and Surgical Journal.

CASE OF ANEURISMAL CONDITION OF THE POSTERIOR AURICULAR AND TEMPORAL ARTERIES. By JAMES SYME, Esq., Lecturer on Surgery, &c.

About the middle of last July, I was consulted by Mrs. T., aged about 50, on account of a tumour about the size of a large gooseberry, which was situated behind the right ear, over the mastoid process. I at first sight conceived this to be a common encysted tumour, which it exactly resembled, but upon compressing, discovered that the disease was of a very different nature. It readily yielded to the fingers, and in its place there could then be felt a considerable depression. So soon as the pressure was removed, it immediately filled again, and if the finger was gently applied while this took place, a jet of blood could be felt issuing from the bottom of the tumour, and the patient heard such a whizzing noise, that she could hardly be persuaded the bystanders also did not perceive it. Below the tumour I felt the posterior auricular artery greatly enlarged, and throbbing with violence; when this vessel was compressed the tumour became flaccid. The patient complained of pain and noise in the swelling, the latter being often so distracting as to deprive her of sleep.

The swelling was first noticed after an accouchement about ten years ago. It had increased very gradually until of late, when its progress was more rapid. Several years ago she asked the opinion of several physicians and surgeons, who recommended pressure, which was accordingly tried, but without any advantage.

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* A fourth case has been recently alluded to by Dr. Blundell—also fatal.—*Ed.*

Conceiving the disease to be an aneurism of the posterior auris, I proposed to tie the vessel, and, meeting with the patient's ready conconcurrence, proceeded to do so on the following day, with the assistance of my friend Dr. Ballingall, whose presence I had requested, as the case seemed to me uncommon and interesting.

In shaving off the hair above and behind the tumour, we found that it was not so circumscribed as it appeared to be, and extended along the course of the artery. Continuing to remove the hair in the course of the dilatation, we at last exposed the whole side of the head, and observed to our concern that not only all the branches of the posterior auris were dilated, but also the posterior and middle branches of the temporal, all of which were throbbing obviously, though not very forcibly. It may appear surprising that this extensive disease escaped detection so long; but if it is recollected that the patient's hair was long and closely applied to the head, which was farther enveloped in the coverings usually worn by matrons, the difficulty of explaining this will not seem very great. The more formidable case related by Pelletan, was in a great measure overlooked, owing to similar circumstances.

We now thought it would be necessary to tie the carotid, but before doing so fortunately discovered that when the posterior auris was compressed the dilatation disappeared; we therefore proceeded to execute our original intention. I exposed the vessel a little below where it entered the tumour, which was not very easy, as its course was perpendicular to the surface, and tied it with a single silk ligature. It was about the size of the radial, and proportionally very thin in its coats. When the ligature was drawn the tumour became flaccid and the dilated vessels disappeared. The edges of the wound were kept together by two stitches, and a compress moistened with acetate of lead water was applied to the rest of the head.

Every thing went on well for a week, excepting a slight attack of erysipelas, which was to be expected, as the patient informed me she frequently suffered from bilious attacks.

On the eighth day after the operation, while I happened to press on the tumour, a slender stream of arterial blood trickled away from the side of the ligature. As it soon ceased I merely applied a compress over the wound. The hemorrhage recurred twice or thrice in the twenty-four hours on the following days,—but as it never exceeded an ounce or two, I concluded that it came from the vessel above the ligature, and therefore contented myself with using superficial pressure, not in the expectation of arresting the discharge of blood,* but in the fear of disturbing, by more efficient measures, the process of obliteration going on below the ligature, which would have been attended with more serious consequences.

On the twelfth day, conceiving that the ligature must have done its duty, I examined the wound, and found in the seat of the ligature a small pulsating bag, from a crevice in the centre of which the blood escaped. Having detached with my nail this little false aneurism, and along with it the ligature which was inclosed, I ascertained that the hemorrhage did proceed from the orifice of the vessel next the tumour. I then applied some small pieces of amadou supported by a graduated compress.

Every thing went on well afterwards. I dressed the wound at the end of three days, when it was suppurating most satisfactorily, and in the course of a short time it cicatrized.

For some weeks after the operation the tumour remained small and flaccid, but when the patient resumed her ordinary diet and exercise, it began to resume its former condition. It was moderately tense; and though no throbbing in it could be felt by the finger, Mrs. T. complained of the noise and pain which had distressed her previously, in a degree comparatively slight, but sufficient to disturb her repose. No appearance of the varicose dilatation of the artery could be perceived.

Finding that the uneasy symptoms continued to increase, and being anxious to take advantage of the command which had been obtained for the present over the disease by obstructing the principal supply of blood, I determined to take an effectual step for the patient's relief.

On the 29th of October, assisted by Professor Ballingall, I cut directly through the long direction of the tumour, which then showed itself to be composed of large irregular cells, invested by a firm capsule. While Dr. B. compressed above and below the tumour, I dissected it out, and then attempted to tie the vessels, but finding this very difficult, I adopted the suggestion of Dr. B. and included them in ligatures by means of a small curved needle. The ligature being drawn, the hemorrhage ceased. I then filled the wound with dry caddis, and applied a firm bandage about the head. The patient did not experience the smallest inconvenience from this operation, excepting the pain immediately attending it. The ligatures separated in about a fortnight, and the wound is now completely healed.

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* It is highly important for surgeons to recollect that pressure is of little avail in the stopping of hemorrhage unless it is applied directly to the bleeding vessel. If this truth were kept in mind we should not so often hear of the humeral artery being tied, since I will venture to affirm, that there is no bleeding from injury of the hand, and I will add of the foot, which cannot be commanded by local pressure. But the pressure must be applied to the bottom of the wound, and if the orifice is not wide enough to admit of this it ought to be dilated.

I am induced to publish this case, 1. Because it throws light on the nature of aneurism by anastomosis. Most surgeons have followed John Bell in thinking that this disease consists of a morbid cellular structure, through which the blood passes in its course from the arteries into the veins. I have long been one of those who maintain that the apparent cells are really sections of enlarged vessels, a good illustration of which opinion is the appearance presented by cutting across the injected spermatic cord of a ram's testicle—or a comparison of the glans penis in man or any other animal, where it seems to consist of cells, with that of the ram or fallow-deer, where it is most distinctly formed by convoluted vessels. In the cases of Pelletan, Wardrop, and Maclachlan, this structure is more readily traced; and in the cases I have related it exists so obviously as to admit of no question.

2. Because it shows that the thin dilated arteries are capable of the obliterating process.

From the Archives Generales de Medecine.

FUNGUS OF THE DURA MATER, *and Transformation of the Bones of the Cranium into an Encephaloid Tumour.* By Dr. Graff.

The patient, a woman, æt. 50, had been subject, from the age of fourteen years, to a frontal cephalalgia, which was aggravated at each menstrual period. In 1820, the pain involved the whole head, producing a sensation of vacuity in the interior of the cranium, which, accompanied by lancinating pains, passing rapidly from the forehead to the occiput, occasioned stunnings, (*etourdissmens.*) In 1823, the cephalalgia became more intense, and vomiting supervened; but these symptoms soon subsided, and there appeared in the occipital and right parietal regions, two small tumours about the size of a pea; at the same time the catamenia were suppressed, to return no more. The tumours, which were hard, elastic, immoveable, and occasioned no pain even upon strong pressure, rapidly increased, particularly the one situated in the middle of the occipital bone, and the pain in the head having become intolerable in the spring of 1825, Dr. Graff determined to attempt the removal of the latter; the operation was accordingly performed on the 11th of June. The tumour had at this time acquired the size of a large orange. On laying aside the integuments which were attached to the subjacent parts by loose cellular tissue, the tumour was seen situated beneath the periosteum; it was white, hard, elastic, strongly adherent to the cranium, and presented pulsations isochronous with those of the pulse. Dr. Graff began by detaching the tumour from the cranium, to which it was connected by a very dense cellular tissue, but he had scarcely separated it to the extent of half an inch around its circumference, when he found an osseous border, which appeared to circumscribe a great opening into the cranium; by a few free strokes with the bistoury, he removed the tumour on a level with the border; immediately black blood flowed in great abundance from the wound, as if from a sponge; the hemorrhage was arrested by the application of dilute sulphuric acid. The opening into the cranium was found to be two inches, and from four to six lines in diameter in every direction; the mass by which it was filled, in colour and consistence, perfectly resembled the medullary substance of the brain; it was adherent to the osseous margin, and occupied the intervals between the bony prolongations which extended into the encephaloid mass; it was firmer at its circumference than at its centre, and entirely indolent. Dr. Graff, desirous of ascertaining to what depth the tumour extended, pushed his finger into its centre, and, by a rotatory motion, introduced it to the depth of an inch, and could even explore the inferior edge of the bony margin; throughout he found nothing but this encephaloid substance; and this examination, which had caused no pain to the patient, by apprising him of the extent of the disease, induced him to relinquish any further operation. The integuments were brought together, and the wound cicatrized in the space of five weeks, having discharged nothing but sanguineous serum. The patient believed himself cured, but the tumour was not long in reappearing, and the one situated in the parietal region, which, until now, had been stationary, began to increase rapidly. The cephalalgia returned with all its former intensity; the vomitings recurred; and to these symptoms were united a difficulty of swallowing fluids, and a sensation of cold in the fauces and in the stomach, so that the warmest aliment appeared of an icy coldness. The patient complained of cold also, in the face, neck, thorax and abdomen, although these parts presented no apparent physical change. Finally, after intense suffering, which was mitigated only by opium, she died on the 24th of the following January.

Permission was obtained to open the head only. Externally the large tumour had acquired a size almost equal to that which it had previous to the operation, the cicatrices covering it presented nothing remarkable; both tumours were somewhat less elastic than before death; the cranium was removed with the membranes and brain; the vessels at the base of the cranium were much injected; the brain presented at the place corresponding to the small tumour, a depression of an inch and eight lines in depth; a still greater depression was remarked at the posterior part of the hemispheres; but in both places the cerebral substance had undergone no alteration in its texture. The cerebellum and medulla oblongata were strongly compressed by the projection of the larger of the funguses internally; to this compression of the medulla oblongata and its nerves, especially the glossopharyngeus and par vagum, is probably to be attributed the sensation of cold in the fauces, and the difficulty of swallowing, of which the patient complained. The substance of the cerebellum and medulla oblongata was sound

The large tumour projected internally, an inch and a half, and had the form of a slightly flattened sphere. This tumour was closely united to the integuments by cellular tissue, and could not be neatly separated from them; its adhesions to the dura mater were much looser, so that it was easy to separate the two parts; the vessels which penetrated from the dura mater into the tumour were very small, and few in number; this membrane itself was thickened, and presented tendinous fibres, crossing each other in every direction, principally in the direction of the falciform process. The sinuses were enlarged, the left transverse, admitted the extremity of the little finger. The glandulæ Pacchioni, as also the portion of the dura mater situated between the tumours, were in their natural condition. The dura mater adhered to the small tumour only by three small vessels, but it was firmly attached to the osseous margin, and large branches of the middle meningeal artery passed from this membrane into the bone: both tumours were firmly fixed to the bony margin without being strangulated by it; their substance resembled the medullary matter of the brain. On slicing horizontally the largest of the funguses, Dr. Graff found, at the distance of an inch and a half above the cranium, a semicircular bony lamella, an inch in length, three lines in breadth, and half a line in thickness at its centre, diminishing towards its edges, which passed insensibly into a substance which was at first cartilaginous, further onwards membranous, and finally medullary, becoming thus confounded with the common mass. After protracted ebullition in water, the encephaloid substance could be separated from the cartilage, and the passage of the bony lamella into cartilaginous substance could thus be distinctly seen; a similar transformation was observed in the splinters and bony plates that from the osseous margin, as also from the whole circumference of the fungus which, during its growth, had been in contact with this margin, penetrated into the humour to the depth of an inch; these splinters remained implanted in the fungus when it was torn from the bone, which it required considerable force to do; a part of the medullary substance remained adherent to the osseous margin, and could only be detached from it by maceration.

The small tumour having been kept in spirits of wine for some weeks, the blood vessels, which passed in great number from the diploe to the tumour, could be more easily distinguished; very few of them were furnished by the compact substance of the bone. The bones of the cranium were thickened, and presented the following alterations. The coronal spine greatly developed, instead of forming the sagittal channel, was continued along the suture of this name, as far as the opening which encircled the large tumour; on this spine, which was very prominent, and from four to five lines in breadth, and on both its sides, for the breadth of two fingers, the internal plate of the cranium was perforated by an infinite number of small foramina, which gave to the bone a porous appearance, and corresponded to the thickened part of the dura mater. This porous structure was more strongly marked in the neighbourhood of the tumours; the foramina which ordinarily give passage to the vessels, were smaller than natural; the reverse was the case with the channels formed in the bones by the vessels of the dura mater. The diploe, the extreme development of which, caused the great thickness of the bones, had the appearance of a solid spongy tissue; it contained much medulla, but did not present the large cells which are usually found in it. After the external table of the bone was removed, several large canals were found in the spongy substance, which had been formed by the extraordinary developement of the nutrient vessels. On the right side, the middle artery of the dura mater ran in one of these canals, which was five lines in breadth, and which divided about three fingers' breadth beneath the small tumour into three branches, two of which were distributed to the tumour and bony margin; while the third divided into an infinite number of ramuscules, which for the extent of an inch and a half in every direction, interlaced with each other so as to form a vascular network, almost entirely effacing the osseous substance; a similar degenerescence, but of less extent, was found on the left temple. The circular opening in which the small tumour had been contained, was situated at the posterior and upper part of the right parietal bone, and was an inch and a half in diameter; its border, in its posterior third, was cut obliquely at the expense of the external table, and the two anterior thirds presented between the tables a semicircular excavation arising from the absence of the diploe. The external table of the bone was bent outwards, and presented a crest, a line and a half in height; the internal table was bent towards the brain; the whole circumference of the opening was bristled with bony spiculæ; two large branches of the middle artery of the dura mater encircled it, and were distributed to the bone itself. The opening formed by the large fungus was situated in the middle of the occipital bone; it was two inches in diameter from right to left, and four lines more, from above downwards; its borders were sloped obliquely at the expense of the external table; the spongy tissue presented excavations in which blood-vessels opened. The spongy texture above mentioned was found between the two tables around the whole circumference of the opening. All these alterations were found in the highest degree in the portion of bone intervening between the tumours. This case may be adduced in confirmation of the opinion of some authors, and particularly of professor Walther, of Bonn, who believe, that what is ordinarily denominated fungus of the dura mater, is nothing more than a fungous degenerescence of the nutrient vessels of the bones of the cranium, and of the osseous substance itself.—*Graefe und Walther's Journal.*

From the London Medico-Chirurgical Review.

AN ESSAY ON A NEW MODE OF TREATMENT FOR DISEASED JOINTS, AND THE NON-UNION OF FRACTURE; *with Cases, and Formulæ of the new Preparations used.* By THOMAS BUCHANAN, C.M. &c. &c. Octavo, pp. 100. Longmans, London, 1828.

The author of the above is favourably known to the profession, by several works of considerable merit. Hitherto, however, his essays have been upon the ear, his labours confined to a single division of surgical science, and the present is a bolder flight, we trust it will not turn out an Icarian one. Authorship is said to be a sin; certain it is, that authors invariably extenuate, or try to extenuate its commission by apologies of one kind or another. The following is Mr. Buchanan's.

"Several years ago, my attention was attracted to the extraordinary effects of the external application of the Tincture of Iodine, in the case of a patient whom I visited in the country. He had been attended in succession by two of the most eminent physicians in this town, along with the family surgeon. One of the physicians asserted that the disease was in the kidney, while the other as positively insisted on its being in the liver. Each of these gentlemen, in rotation, treated the case according to his own ideas of the seat of disease, and the indication of cure, without in any degree ameliorating the distressing situation of the patient, whose decease was daily expected. Such was the account I received when I saw him for the first time, being then attended by the family surgeon, the physicians having declared the case hopeless.

"The whole of the right hypochondriac region was enormously enlarged, so that when the patient lay on his left side, the parts projected, similar to that of the abdomen of a woman in the fourth month of pregnancy. From the appearance of the parts I was of the opinion that both the liver and kidney were diseased, particularly the latter.

"A singular circumstance was, that the patient had agreed for me to be sent for to receive instructions to inspect his body after death. I had however brought with me a small bottleful of the tincture of iodine, diluted with aqua calcis, and with the consent of the surgeon, and as a forlorn hope, applied over all the parts diseased with a camel-hair brush, to the extent of nearly half an ounce of this mixture, and left directions for this quantity to be applied in the same manner once every day. By following this mode of treatment, the patient was in a few weeks completely restored, and is at present pursuing all the laborious duties incident to the operative agriculturist, with ease to himself and advantage to his family. Encouraged by this almost unexpected cure, I began to apply the tincture externally to almost every case which resisted the ordinary routine of practice, and the result has been the production of the following pages." X.

After briefly summing up the various modes of treatment, recommended by all the most celebrated men who have written on the subject, our author proceeds to disclose his own, which, with him, "has produced resolution in the acute, and absorption of matter when formed in the chronic stage, without causing pain to the patient or injury to the system." Believing that the indication of cure consists in establishing healthy action in the parts diseased, and thereby alleviating pain and irritability, Mr. B. rejects, as inadmissible, blisters, issues, setons, and frictions, with or without liniments or ointments; inasmuch as they increase the local irritation. He also rejects the exhibition of medicine internally, because it must saturate and often disorder the system, before it affects the disease. Reasoning on the powers of mercury in inunction, the good effects of iodine in diseases of the ear, and the powers of the tincture, *locally* applied, in dispersing enlargements of the inguinal glands, our author was determined to make trial of the tincture, as a local application, in diseases of the joints. When a man has determined to execute a project, opportunities of doing so generally offer, at least it was the case with Mr. Buchanan. Within a few days of his making up his mind to employ the iodine, a middle-aged woman solicited advice.

The joint, between the first and second phalanx of the middle finger, had been wounded by a sickle eight days before, and was swelled to nearly twice its natural size. The wound had closed, and, as motion appeared to be lost, Mr. B. concluded that the tendon of the flexor muscle was divided, and had partially adhered. The tincture of iodine was applied to the part, by means of a camel-hair pencil, and the back of the hand being painful and swollen, the application was extended to the parts around. This treatment was repeated every morning—the swelling, in a few days, diminished—in eight days motion was partially restored—and the finger, at the end of a fortnight, was reduced to nearly its usual size, and rendered as useful as it was before the accident occurred.

The above was, in all probability, inflammation of the synovial membrane of the joint, and consequent effusion into its cavity. Whether Dame Nature or the tincture of iodine effected the cure, far be it from us to decide. Mr. Buchanan was confirmed in his opinion by the result, and employed the remedy in several cases, two more of which we shall notice. A seaman, æt. 27, just arrived from Hamburgh, presented himself with the left hand much swollen, the fingers so tumefied as not to allow ready motion, and the fore-arm also considerably swollen, with pain extending as high as the axilla. The back of the first phalanx of the little finger was laid bare by a wound, an inch in length, and a third of an inch in breadth, with elevated edges. The greater part of the muscular substance, surrounding the lateral and posterior parts of the phalanx to the joint, were detached from the bone, and presented a bluish colour near the periosteum. The tincture of iodine was applied to the tumid part, and the patient directed to take a mixture, containing calumba, quassia, and sulphate of magnesia, three times a-day. On the second day, the pain had subsided, and the swelling was diminished in the fore-arm and hand, but the joint of the finger was still enlarged. The wound was dressed with an ointment, composed of resin and acetic acid, spread on lint, the tincture applied in the wound and around it, and the finger bound up with a narrow roller. With the latter application daily continued, the patient was dismissed in six days more. A shipmate, affected in a similar way, had suffered amputation of the hand, and died.

The following is a different description of case. A child, one year and nine months old, was brought to our author under the following circumstances. The right hip-joint was greatly enlarged—the limb was shortened—the toes inverted—the leg and thigh wasted. The appetite was bad, the little patient had hectic, was a twin, and had the signs of a scrofulous habit. The complaint had begun six months before, and was treated by leeches, poultices, and medicine, but without the most distant relief. One eminent physician refused to prescribe, alleging that the child could not survive the shock which the system had received. In addition to the symptoms first described, we should mention that a large collection of matter had formed over the posterior part of the joint. The integument presented a partial blush of red, and the abscess was apparently ready to burst. Great pain was produced on attempting to move, or even lightly touch, the limb. The tincture was applied, and a powder of carbonate of magnesia, dragon's blood, and rhubarb, given at nights. To these, a decoction of dulcamara was added; the treatment being pursued, with little alteration, till the end of five months, when the following report was made.

"The tincture has been applied every second day this week past. The muscular substance of the leg and thigh very much improved. During a considerable period no motion could be obtained without great pain. The application speedily caused a cessation of pain except when the joint was violently moved, and even then the pain was only partial. When absorption of the tumour took place, the parts continued for some time apparently of the same size, but turned gradually soft and spongy to the touch, and diminished almost imperceptibly.

"In the early period of the treatment, the integuments on, and around the joint, used to be more swollen some days than others; but now the parts are regularly of a uniform size, except a slight enlargement about the joint, and even this slight elevation is gradually diminishing." 45.

At present, 1828, the boy can run about without any assistance, and uses his limb with freedom and facility. A slight halt, however, remains, attributable, so Mr. B. thinks, to part of the head of the femur having been destroyed by ulceration before the tincture of iodine was used.

We fear that this new mode of treating diseases of the joints will scarcely prove of that paramount importance its advocate and author is sanguine enough to believe. Valeat quantum valere debet. Mr. Buchanan is far from confining the powers of the tincture to this class of complaints, extensive as it is. Gangrene, diseases of the spine, bubo, fistula, venereal nodes, inflammation of the mamma, and even non-uniting fractures, acknowledge the powers of the medicine.

"In the case of a strong healthy young man, who had his great toe crushed by a large heavy stone, which fell, and divided the toe at the second joint, the good effects of this mode of treatment was fully experienced. The parts were brought together and dressed, and two days afterwards gangrene took place; I had therefore, no other apparent resource, but either to apply a poultice to the parts until the slough was thrown off, or to amputate. In this dilemma I applied the tincture not only to the surrounding parts, but to the slough itself, and afterwards covered the wound with lint spread with the Ung. Resin. Comp. Part of the apparently dead substance of the toe became re-organized, so that instead of one half of the toe being thrown off, there was only a small piece of the skin detached; the bone united, parts healed and became as useful as before the accident happened." 49.

A young gentleman, of delicate constitution, applied with a very large venereal bubo, to which leeches and lotions had been frequently applied, without in the least arresting its progress. Mr. B. applied the tincture to the bubo, and also to an extent of more than two inches around it. On the third day, the pain and swelling were gone. Together with the iodine, the following was given, and sceptics might doubt to which the palm of victory belonged; six grains of blue pill, fifteen of jalap, and conserve of roses enough to make a bolus, taken at night.

"In two cases of fistula under my care, the one in the perinæum, and the other situated near the anus; the application of the tincture speedily effected a total obliteration of both the fistulous cavities. The fistula which was situated in the perinæum, had been an affection of several years' standing, and of course required a longer period to effect a cure than the one near the anus. I have operated successfully for this complaint several times; but in future I should prefer the local application of the tincture, especially in the incipient stage, before it has communicated with the rectum or urethra, and have no doubt of effecting a cure in every instance.

"The external application of the tincture has, under my care, been of the greatest benefit in the discussion of nodes. A gentleman applied to me some time ago, under the most distressing circumstances. He had great pain in the scalp, particularly a little above the left orbit, and in the occipital region, where the parts were elevated, soft, and inflamed, with considerable depression in the cranium immediately underneath the sores, and easily perceptible to the touch. The pain was so intense, as to deprive him of sleep, and he was in the habit of taking a night draught of a hundred drops of the tincture of opium, and even plunging his head in water several times during the night, in order to afford a temporary suspension of the excruciating torture of this baneful disease.* He has been bled with leeches, cupped and blistered; and has used mercurial pills, ointments, &c. upwards of three years.

"He was in this deplorable state when I first applied the tincture of iodine to the nodes, in the manner described; in a few days a gradual cessation of pain took place, and in about five or six weeks, the integuments resumed their healthy appearance. The depressions became gradually filled with deposition of osseous substance, and he slept as sound as ever he was accustomed to do, prior to the beginning of this complaint. I prescribed at the same time, medicines for other symptoms of which he complained." 37.

In common inflammation and induration of the mamma, as well as in milk abscess and even in cases of cancer, Mr. Buchanan has derived the greatest advantage from the medicine. Several instances of cancerous affection of the breast were cured, at least the ulcers healed, whilst every symptom of disease disappeared, and none have yet returned. We now arrive at the second leading division of the work, headed, on the Treatment of Non-union of Fracture. After mentioning the practice of Hunter, who advised that the extremities of the bone should be rubbed together; of Mr. White, who excised the ends of bone; and, lastly, of Dr. Physic, who proposed and employed the seton, our author details a case where the tincture of iodine was used by himself.

"A seaman apprentice, ætatis 18, applied to me under the following circumstances. The patient had been employed during the preceding summer, on board of the ship Alfred, in the Davis' Straits fishery: and on the 31st of May his right leg was fractured by the tiller of the vessel, when she was making a '*stern board*' among the ice. The tibia and fibula were both broken, but reduced immediately afterwards by the surgeon of the vessel. The fracture being oblique, and bad weather occurring, the medical attendant failed in keeping the extremities of the bones in apposition. As to the propriety of his conduct, in allowing the bones to remain in that state, it forms no part of the present subject, and I shall therefore merely state the situation in which I found the limb at the time of application. The extremity of the lower portion of the fibula was detained in the gastrocnemius muscle, while the extremity of the upper portion was in partial contact with the extremity of the lower portion of the tibia, and the extremity of the upper portion of the tibia, from the obliquity of the fracture, overlayed, but in partial contact with the extremity of the lower portion. The patient was obliged to be supported, at first with a crutch, and afterwards with a staff, from the weakness of the limb, otherwise in excellent health, and a strong good looking young man. I applied a pledget of lint, dipped in a stimulating and astringent lotion, to the fracture, and then passed a bandage over it, from the toes to the knee, so as to cause pressure on the parts, and ordered to take a wine glassful of the decoction of dulcamara three times a day. I persevered in this mode of treatment until April, 1827, but without the least success.

"Tired with this method, I proposed to cut down on the fracture, excise the extremities of the tibia and fibula, and then endeavour to place them in apposition. The owner of the vessel to whom the young man was apprentice, from principles of humanity, would not consent to the operation.

"On due reflection I was convinced, that if six months' trial of the Hunterian mode, partially combined with that of Mr. Amesbury, had no effect in relieving any of the symptoms, they would not in all probability be any way relieved even by a continuance of seven years of the same mode of treatment.

"From the stimulating effects of the tincture of iodine when applied externally, I resolved to put its qualities to a severe test, by applying it to the limb, in the manner already described, in order to produce increased action of the arteries in the extremities of the fracture, and consequently secretion of ossific matter. At this period it was with the greatest difficulty and extreme pain, that the patient could drag himself along with a staff. The limb was considerably swelled, particularly below the fracture; and if, when attempting to drag himself along, he touched a stone, or the least elevation above the common level of the path on which he walked, he was by that means put to the most excruciating torture. His foot, with the lower portion of the leg, could be wrought outwards and inwards, in a rotatory manner, when crepitus could be distinctly felt: while at the same time, the knee and upper part of the leg were not affected by the motion of the foot. The limb was about two inches shorter than the other.

"*April* 16*th*.—Applied the tincture to the limb, particularly about the fracture, and the parts around the ankle, and in three days afterwards, (19th,) the pain and swelling were removed. The patient took at the same time, a wine glassful of the decoct. dulcam. C. three times a day. I continued to apply the tincture every morning until May, and then applied it only every second day; the decoction was, however, continued as usual. The parts became stimulated, and deposited osseous substance, union of the extremities of the fractured bones took place, and in the month of August following, (1827) he was dismissed cured, with the limb apparently stronger than before the accident happened, and is now (1828) on board of his vessel, as active as formerly." 77.

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* "About twelve months prior to this period, the patient went to London expressly for advice, and consulted the most eminent of the profession, and was at one time under the care of a gentleman attached to the medical department of his Majesty's household, without experiencing any relief."

With this we conclude our notice of the work, which should rather have been called a treatise on iodine than one on diseases of the joints. Mr. Buchanan undoubtedly merits commendation for the zeal he has displayed in his trials of the medicine, however divided opinion may be on the results. For our own parts, we believe the author has been led away by that leaning in its favour which all men must feel in pursuing a particular inquiry. The powers and qualities of iodine are far from being yet understood, and every contribution on the subject is therefore a matter of interest and importance. We have placed the main facts brought forward by our author on record, and leave the profession to judge of their value for itself.

From the London Medical and Surgical Journal.

EXPERIENCES SUR LE TRAITEMENT DES AFFECTIONS PUTRIDES—*Experiments on the Treatment of Putrid Affections.* By MM. Leuret and Hamont.*

The study of morbid anatomy, notwithstanding the importance of the science to the medical practitioner, has tended, in some measure, as we before observed, to confine the views of pathologists respecting the general nature of disease. It has led some authors to conclude that all the affections generally termed *fevers* have their local habitation, either in the brain or in some other particular organ. But even morbid anatomy confirms the fact, that fevers of the same class do not always leave the same marks to be observable after death. In one case, the brain or its membranes may be found in a state of congestion, or of inflammation; in another, the lungs, or the pleura; in a third, the peritoneum, the mucous lining of the intestines, or of the air tubes, the liver, or any other organ; and in some cases no unequivocal marks of disease can be discovered in any part of the body. This being the case, surely there is no reason, according to the present state of our knowledge, to assign any one particular organ as the special seat of fever, to whatever class it may belong.

Conformably to the above doctrine of fever, all fevers are supposed to be of the same kind, or of the same essential nature, differing only in degree, or intensity, according to climate, local situation, and other external causes. If this view of fever be correct, it follows that the laws of nature, in regard to health and disease, act in a manner perfectly contrary to the regular order of natural phenomena. Physical laws, insofar as we are acquainted with their operations, determine the effects by the causes which precede. It would follow from this, that fevers, as well as other diseases, produced by dissimilar causes acting upon constitutions similarly modified, must differ in kind and in their essential properties as much as one salt differs from another possessing a different base. If we observe the progress of infectious diseases, we shall find, invariably, that the same effects follow the application of the same causes. The syphilitic virus never produces small-pox, nor does the small-pox virus ever give rise to measles or scarlet fever. Thus, in affections whose causes are palpable, nature works in the regular order of causation, and the effects in every instance are such as experience or observation of the order of natural phenomena would lead us to expect. Now, have we any reason to infer that impalpable causes act under laws different from those which govern objects of sense? Or is there reason to infer that the properties of all impalpable causes are alike, that they should all produce the same effects? Such an inference cannot, surely, be drawn, if our senses are the only means in our possession by which we are to judge of the properties of external objects. We have no other means of judging of the properties of causes which do not form objects of sense, than by their phenomena in relation with sensible objects, or from analogy founded on our knowledge of the properties of causes cognizable to the senses. Now the phenomena of fevers differ in the same constitution, under the influence of the same climate, and in the same local situation, according, to the different causes which give rise to them. This fact would lead us to infer the existence of a difference in the essential, or (as some would call them) secret, properties of the disease itself. The symptoms of fever in general fully denote an affection of the system at large, and the symptoms of one species of fever are different in many respects from those of others.

Now, if the fever set up in the system as a consequence of the introduction of morbific effluvia be a general affection, it becomes an interesting subject of inquiry, through what medium is the subtile cause communicated to the various parts? It is evident that its first application is made to the surface of the mucous membrane either of the lungs or of the stomach, or both, or else to the surface of the skin. But the question respecting which much difference of opinion has existed is, does the morbific principle form its primary and chief relation, after becoming in contact with the mucous or the cutaneous tissue, with the extremities of the nerves ramifying on that tissue, and is it conveyed by these organs into the brain and from thence to the rest of the system? or is it absorbed and conveyed into the blood, and through this medium distributed throughout the different tissues? So far as our knowledge of physiology and pathology extends, the phenomena of fever, from beginning to end, are not such as might naturally be expected to proceed from derangement of the functions of the nerves; and no examples of nervous disease can be adduced bearing strict analogy to fever. The functions of the cerebro-spinal nerves may be said to consist in conveying sensation and voluntary motion. With regard to time, each of these acts is accomplished in a very short space. From the nature of these functions, it might be expected that the symptoms of disease of the organs, or, which is the same thing, that a derangement of their functions, would bear some resemblance in their characters, as to time and other things, to their healthy phenomena. And, in fact, this is the case in nervous diseases, at any rate in those affections which are generally allowed to depend on the nervous system. For example, a fit of hysteria is sudden in its attack and short in its duration; so is epilepsy; so are the paroxysms of tetanus, of hydrophobia, of different species of convulsions dependent on cerebral irritation, catalepsy, &c. These affections bear certain peculiar characters which the mind associates with the functions of the nerves, but which, from the intimate relation and mutual dependence of the nervous and vascular systems, must, in some measure, modify, or even derange, the function of the latter system also. Again, substances which possess the properties of deranging and of destroying the nervous functions, when inserted under the skin, or applied to the surface of the mucous membranes, are very sudden in their action; whereas, morbific poisons, which are supposed, from pretty strong proof, to act through the medium of the blood, are comparatively slow in their operations.

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* Journal des Progrès, &c.

From the foregoing facts, compared with the origin, progress, and general character of febrile diseases, the inference to be drawn from them is, that every part of the system bears its share in these affections, and that the cause, whether in the form of effluvia of different kinds, or in a more palpable form, is conveyed to the different seats through the medium of the circulating fluid. Several facts tend to prove that this fluid is subject to disease, and, as this is the case, it is nothing extraordinary that the functions of all the organs should manifest derangement under such circumstances. It has been supposed of late years that the constitutional symptoms which proceed from the exposure of the cavity of chronic abscesses depend upon inflammation of the lining membrane, and that the affection of the system is merely symptomatic of the local irritation. But the fact that the cyst of the abscess is in a state of inflammation before it is exposed to the atmospheric air, and yet that no severe constitutional symptoms take place, would render it probable that the symptoms which occur afterwards proceed from the absorption of some deleterious substances into blood. We shall now proceed to notice the facts adduced by MM. Leuret and Hamont, to prove that the system is liable to be so affected when putrid substances are introduced into the vascular system, and that the general system may be again relieved from these effects by the abstraction of blood, so far as to enable it to resume its healthy functions. We have often argued in favour of the probability that abstraction of blood would prove beneficial in all diseases of a putrescent tendency, if this could be done without reducing the system so far as to render it incapable of keeping up the function of respiration, and some other functions upon which vivifaction immediately depends. We have also maintained that the benefit arising from loss of blood under such circumstances does not obtain according to the principle that blood-letting tends to reduce inflammation, but that it is a means of depriving the system of a part of the morbific cause upon which the general derangement depends, and which acts through the medium of the blood.

MM. Leuret and Hamont observe, that after having caused the death of a great number of horses by the injection of putrid matter into the veins, they have been led to conclude that the death of these animals could not be attributed to a local affection of an inflammatory nature, for they could not discover constant and incontestible traces of inflammation after such experiments. In the greater number of cases the nervous system was healthy, the heart, the organs of respiration and of digestion presented only some ecchymoses, or slight sanguineous effusions: the internal surface of the large vessels, and particularly that of the aorta, and of its primary divisions, was sometimes red, but this colour was rarely discovered immediately after death; it was merely found in bodies examined a certain number of hours after the death of the animal. Considering, likewise, that the matter employed had been injected, not into a circumscribed part, but into a large venous trunk, and that it became, consequently, mixed with the mass of blood, with which it was conveyed to every part of the body, MM. Leuret and Hamont deem it impossible to believe otherwise than that it gave rise to a general affection. Being afterwards assured that the observations furnished by numerous examples of morbid affections were analogous to those produced by the injection of morbid matter, and having communicated carbunculous disease by means of transfusion, they could no longer doubt that the blood was susceptible of becoming vitiated.

Having arrived at this conclusion, MM. Leuret and Hamont began to turn their attention in search of some curative means by which the alteration of the blood might be destroyed. They found that numerous authors, such as Mercatus, Massa, Forestus, Botal, have employed bleeding with success in the treatment of the plague, and that Sydenham, considering the blood as the seat of this malady, advised the same practice; they, therefore, deemed it proper to commence their inquiry by subjecting this treatment to the test of experiment. They consequently produced an alteration of the blood by mixing putrid matter with it, and when the symptoms had become sufficiently manifest, as indicative of a general affection of the system, they had recourse to blood-letting, unaided by other remedies. The following are the details of their experiments:—

Experiment 1.—October 4th, at two o'clock in the afternoon, about two drachms of pus, diluted with water, were injected into the jugular vein of a horse affected with chronic catarrh. The vessel was previously isolated, and immediately after the injection it was tied, both above and below the incision. 5th. General debility; head carried low; loss of appetite; the eyelids covering the eyes; conjunctivæ infiltred; temperature of the body elevated; pulse frequent, full and tense. 6th. Trembling of the whole body; head always low; eyes shining; respiration frequent; pulse hard, sixty in a minute; mouth hot and dry; the animal drinks little; excrements appearing natural. *Bleeding, nine pounds;* the blood is of a dark purple colour, and very hot. An hour after the bleeding the animal appeared less affected. He voluntarily ate some bran and straw. The pulse remained frequent during the day. 7th. The trembling is gone; head not so low; the eyes are less shining than they were before; the pulse is hard, beating sixty in a minute. *Bleeding, eight pounds; bran-water, straw, and hay.* The pulse became fuller during the day, and, at the same time, diminished in frequency. The animal was less oppressed. 8th. He lay during the night; he both ate and drank; he voided some excrement, which was in the natural state; respiration free and easy; pulse small and frequent. *Bleeding, five pounds; the same regimen as before.* On the 9th and 10th the animal continued to mend, and by the 12th, that is to say, eight days after the injection, his health was completely re-established.

It will be observed, that in this case the treatment employed had a marked influence on the progress of the affection produced by the injection of putrid matter. Animals submitted to experiments of this kind most commonly sink under them; but the horse which formed the subject of the above survived it, although the symptoms made their appearance with great promptitude and severity. An amendment was remarked to have taken place an hour only after the first bleeding; and although no other remedies than blood-letting were had recourse to, the animal perfectly recovered. From the nature of the case, and the severity of the symptoms at the commencement, MM. Leuret and Hamont do not hesitate to say, that its termination would have been very different had it been allowed to take its own course.

Experiment 2.—October 11th, at six o'clock in the afternoon, two drachms of very fetid pus, diluted in a small quantity of water, were injected into the jugular vein of a strong horse affected with chronic catarrh. On the morrow morning the animal appeared oppressed; he held his head low; eyelids tumefied; eyes clear and shining; the mouth hot and dry; the mucous membrane red; pulse tense and frequent; skin very hot. 13th. His manner is stupid; eyes bleared and less brilliant; mouth not quite so hot as yesterday, a little glutinous; pulse regular, but rather hard, beating fifty-seven times in a minute. The animal ate some hay, but did not drink. The excrements appeared natural. *Bleeding, eight pounds; bran-water and hay.* During bleeding the pulse became eveloped, and when the bleeding was over, the pulsations were sixty-four in a minute. The blood, examined on the morrow, presented a very firm coagulum, covered by a thick crust, it had scarcely any serum. 14th. The animal shows less oppression; the eyes are no longer bleared, but rather turbid; pulse hard, without intermission, beating sixty-five times in a minute. The animal eats voluntarily; the mouth is moist and slabbering; excrements natural. *Bleeding, nine pounds.* The blood at first was of a bright red, but towards the end of the bleeding it became dark coloured. After coagulating, it had the same appearance as the former blood, only that the quantity of serum was rather greater. The pulse became developed during the bleeding; it beat during the day as much as eighty times in a minute. The mouth is hot, less humid; oppression augmented. 15th. All the symptoms have much diminished; the pulse is scarcely frequent; alvine evacuations during the night, which present nothing particular. About two o'clock the oppression returned, not so severe, however, as yesterday; the pulse developed, more frequent and irregular. 16th. He carries his head low; somnolence; yellowness of the conjunctivæ; mouth humid; pulse frequent; temperature of the body rather elevated. *Bleeding, nine pounds.* The blood was of a bright red colour, and remained a long time fluid; when coagulated, it presented rather more serum still than the second blood: immediately after the bleeding the pulse increased in frequency. In the morning of the 17th, the animal was less oppressed than the evening before; he lay down; pulse still frequent, and irregular. *Bleeding, nine pounds.* Blood of a vermilion colour; it gave out a great quantity of serum on coagulation; the crust yellow, but thin; the pulse became elevated and frequent during bleeding. 18th. The animal does not carry his head so low as he did; appetite returning; pulse less frequent, regular; eyes more natural; conjunctivæ of a rose colour; mouth cool. From this time the horse continued to improve, and on the 23d, recovery was complete.

Experiment 3.—Two drachms of purulent matter, taken from the same source as that used in the second experiment, were injected into the jugular vein of a strong horse on the 12th of October.—13th. The animal appeared stupid and oppressed; eyes bleared; temperature of the body elevated; pulse developed, beating fifty-five times in a minute; little appetite; no thirst; excrements appearing natural. *Bleeding, seven pounds.* Blood very red; when coagulated, it presented a very thick crust, and contained but little serum; pulse became developed during the flow of blood, beating sixty times in a minute. 14th. Less oppression; redness of the conjunctivæ, with slight ecchymosis; eyes rather bleared; mouth slightly hot, but moist; buccal membrane of a rose colour; appetite; excrements natural; pulse full, but regular; temperature of the body rather higher than natural. During the day the animal did not eat any; the pulse beat fifty times in a minute. *Bleeding, eight pounds.* Blood red and hot; the coagulum still presented a thick crust, and gave out but little serum. The pulse acquired frequency during the flow of blood. 15th. Amendment very obvious: the oppression has nearly subsided; the animal eats with avidity some bran presented to him; temperature of the body natural; pulse rather frequent; conjunctivæ in the same state as before. He continued to improve from this time, and the recovery was complete on the 20th, with the exception of a slight elevation of the pulse, which, also, soon returned to its natural state.

MM. Leuret and Hamont remark, that the same cause in different animals does not always produce effects perfectly similar, because they are differently organized in some measure, and their constitutions differ in modification. Although the symptoms produced by the injection of purulent matter into the veins differ in the degree of their intensity in different animals, still they are the same in kind, and bleeding appears to exert a decided influence over them. The disease in the second case lasted eleven days, and the treatment was continued for nine days; whereas, in the third experiment, the animal was well by the eighth day. In the third case, also, the symptoms did not acquire the same intensity as in the first, and particularly the second. What could be the cause of this difference? MM. Leuret and Hamont think it may be accounted for by the circumstance that bleeding was not had recourse to in the first and second cases until the third day, thereby allowing the morbific cause time to produce great alteration in the blood, as well as derangement of the organic functions; whereas, in the third case, bleeding was performed on the second day, before the poison had sufficient time to derange the function of the different organs to the same extent.

If it were asked, say the authors, in what manner bleeding cures, many would answer, that it is by acting as an antiphlogistic. But, is it an inflammation that we have to treat? The answer to this question is to be founded upon an examination of the symptoms, and the morbid appearances observable in the bodies of animals into whose veins putrid matter has been injected. The symptoms are not those of encephalitis, of pneumonia, of carditis, of gastro-enteritis, &c.; and the lesions discoverable after death, in the greater number of instances, consist of nothing more than ecchymoses. It is, doubtless, possible that, in certain cases, the disease has some complication of an inflammatory nature; but it is equally true that this complication is always ruled by the general nature of the malady. M. Gaspard has observed that dogs upon which he experimented had often critical alvine evacuations; this is a further proof in favour of the existence of a general disease, since these evacuations announce the approach of health. If it is not upon the principle of subduing inflammation that bleeding acts in these cases, are its successful results attributable to the depletion of the vascular system, or to the evacuation of a certain portion of the altered blood from that system? It certainly produces this depletion and this evacuation. But how these effects contribute to bring about recovery is a problem which they have not attempted to solve. Therefore, without attempting to explain things which they consider themselves unable to penetrate, they arrive at a conclusion which appears necessarily to follow from the experiments, namely: that when bleeding has sufficed in the treatment of a disease, it does not follow that that disease was of an inflammatory nature. Bleeding was formerly practised with the view of evacuating the diseased blood; it is practised at the present time with that of averting or of combatting inflammation. Under similar circumstances, the practice remains the same among all well-educated physicians. The explication differs, but the successes are numerous, inasmuch as the case does not result from the hypotheses, but from remedies, the virtues of which experience has demonstrated.

To prove the effects on the constitution of other substances than putrid pus, M. Leuret inserted portions of carbuncled tumours into the cellular membrane of horses, in order to allow the system to become affected by absorption of the diseased matter. These experiments were followed by considerable local tumefaction, intense pain, and a discharge of fetid ichor from the wound. To these symptoms succeeded others of a more grave character. The pulse became weak, frequent and intermitting; respiration laborious; yellowness of the conjunctivæ; lippitude of the eyes; the walk became feeble and tottering; rumbling of the bowels; alvine discharges frequent and fetid; appetite continued for some time. These symptoms went on increasing in intensity, and were followed, in a longer or shorter time, by death. On examination of the bodies after death, independently of the local affection, the tissue of the heart was generally found softened, and its external surface ecchymosed along the course of the vessels; ecchymosis of its internal surface, especially in the left cavities; the parietes of the large vessels were generally found healthy, but sometimes of a reddish colour; the blood was commonly fluid; sometimes in black or whitish yellow coagula, but very soft; the lungs emphysematous, strewed with ecchymoses, and presenting dark-coloured spots; dark streaks along the vessels of the external surface of the digestive canal; its internal surface ecchymosed; that of the small intestines injected and red in places, especially in the situation of the follicular glands; liver and spleen friable; the urinary passages healthy; the cellular tissue surrounding the kidneys emphysematous; nervous system healthy.

These morbid appearances are the same as those observable in cases where the disease takes place spontaneously. M. Leuret endeavoured to determine, by chemical analysis, whether or not the blood itself be effected in such cases. He submitted to the same chemical process, blood taken from an animal labouring under the malady in question, and blood taken from a healthy animal: the products were the same both in nature and in quantity; so that these experiments did not furnish a solution of the question. M. Leuret next thought of allowing the two to putrefy; the result here was, that the blood taken from the diseased animal appeared to decompose sooner than the other, at least carbonic acid was disengaged from it thirty-six hours sooner than from that taken from the healthy animal. This experiment, however, was not satisfactory, for the prior disengagement of the carbonic acid from the former might have taken place in consequence of its possessing less cohesive property than the latter, and this acid might have been only that which the blood naturally contained. But M. Leuret should have considered that there must have been some cause to determine the carbuncled blood to be less cohesive than that obtained from the healthy animal. However, he proceeded to solve the question by a different process, namely, by transfusing the blood of a diseased horse into the veins of a healthy one. The result was, that the animal subjected to the experiment fell ill, died, and presented, on dissection, all the appearances already described. From these facts, therefore, it would appear that the blood was altered in its condition, and that it possessed the property of imparting the disease to a healthy animal; but, what the alteration consisted in, or in what chemical properties did the fluid differ from healthy blood, could not be determined.

From the Medico-Chirurgical Review.

COMMENTARIES ON THE CAUSES, FORMS, SYMPTOMS, AND TREATMENT, MORAL AND MEDICAL, OF INSANITY. By George Man Burrows, M. D., &c. &c.

It was high time that England should produce a work on *insanity* which would concentrate the lights that have been thrown on that dreadful malady by various pathologists and practitioners, during the last twenty years. Till the appearance of the work at the head of this article, there was no systematic treatise on the subject of mental derangement, in the English language, which was at all on a level with the progress of pathology in Europe, and therefore Dr. Burrows' attempt to supply the deficiency is meritorious, and the result will be beneficial to the profession in this country. Insanity is a disease so obscure in its nature, and so untoward in its manifestations, that the great mass of medical practitioners consider it as one of those which ought to go at once to the asylum, and, therefore, they do not study it with that care which is expended on the common diseases of routine practice. This circumstance may have contributed to retard the progress of mental pathology in this country —for, it is not to be concealed that medicine, in all its branches, and in this one particularly, is become a *trade* as well as a science here. How few professed oculists, aurists, or dentists, *publish* on the subjects of their especial pursuits—except in the newspapers, or in works where the *means* are concealed, though the end occasionally becomes manifest!!* What information, on the interesting subject of insanity, have we derived from the accumulated experience of the numerous physicians and surgeons in these islands, who devote their time and talents *exclusively* to this melancholy class of afflictions? Dr. Haslam, on resigning the seals (or at least the *scales*) of Bedlam, favoured the world with some observations on sound and unsound mind; but there was rather too much of philosophy and metaphysics mixed up with the Doctor's practical remarks, to render them as useful as they might have been, considering the field which had been open to the author for investigation. Since Dr. Haslam's book appeared, there has been nothing published in this country which deserves particular notice, although many valuable monographs issued from the press on the continent, during that period. Pinel, Esquirol, Georget, and many other writers, have greatly enriched this field of medical science, which has lain nearly waste in the land where insanity is said to thrive better than in any other region of the world.

It is well known that Dr. Burrows, more than ten years ago, issued proposals for the publication of a large work on insanity. We know not whether to congratulate or condole with the author, on an accident which happened to his manuscripts when nearly ready for the press. By one "COUP DE MAIN" of a thief, the whole of his literary researches were swept away! We should have liked to see the PHRENZY of the SPOILATOR, on opening the large desk, with which he leisurely marched out of the front door of the Doctor's house, in open day. Instead of Bank-notes, he only found "NOTES ON MADNESS!" To what purpose these notes were afterwards applied, has never been ascertained:—But we verily believe that both the author and the public will be benefited by the operations of the thief. Learning may have lost—but knowledge has been gained by the accident. Dr. B. could have had but little personal experience, ten years ago, as compared with the present, in the science and treatment of insanity. The loss of his manuscripts has thrown him more on his own resources, and it would be well for MEDICINE if a thief were always in the way, when an author first steps out to have an interview with that important personage, the printer?

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* By the expression "few," we admit some honourable exceptions to the general rule—a rule which applies still more strongly to the treatment of insanity than to the treatment of any other class of affections.

Dr. Burrows has divided his work into five parts, and each of these parts are subdivided into commentaries. We can see no real necessity for the division into PARTS, because there are no natural distinctions between them --the commentaries being quite sufficient for localising the various points of discussion.

The FIRST PART, occupying 245 pages of letter-press, and embracing the important subject of ETIOLOGY in all its various bearings, together with commentaries on the states of the nervous and vascular systems---hemorrhages, complications of insanity with other diseases, metastases, consequences, &c. would, in strict justice, demand an entire article in our Journal. Fifteen years' exercise has not opened to us the ROYAL ROAD TO REVIEWING. We cannot despatch a large volume in two or three pages according to the modern "MARCH of INTELLECT," which indeed is more like the aerial flight of a balloon than the sober pace of literature or science. In these *gazeous* excursions, the land may be distinguished from the water--the mountain from the valley—or perhaps the city from the country; but all other and minute features of the scene are veiled from the sight. It is so with MODERN REVIEWING. Instead of exhibiting the minute features of a work, not even the leading characters are portrayed. In short,—to eulogise or condemn a publication, unread--if not unseen--is no uncommon practice in these days of venality, licentiousness, and personal rancour.

We shall not dwell on the "INTRODUCTION" to the work, nor inquire whether "madness is one of the curses imposed by the wrath of the Almighty on his people for their sins. Dr. B. we understand has been censured for this expression, having forgotten to give his authority (Deuteronomy) for it, and consequently appearing to give it on his own. With all due respect for the Doctor, as well as for Deuteronomy, we do not believe that the Almighty ever afflicted one of our fellow-creatures with madness, the Heathen authority to the contrary notwithstanding:—

Quem DEUS vult perdere prius DEMENTIT.

The antiquity of madness is pretty high, since SAUL was in that condition, and appears to have been cured of melancholia by the music of David's harp. That the disease had multiplied between the days of David and Horace is sufficiently evident from the satirical allusions ("insanire omnes") of the Roman Poet. But these matters must be all left on one side, while we proceed to more important considerations. After exposing the absurd attempts to investigate the nature of insanity as a purely *mental* disorder, Dr. B. quotes a passage from BACON, which shows that HE clearly saw the true path of investigation. Speaking of disorders of the mind, "the absolute source, if carefully developed (says he) will be found to exist in *corporeal changes*, or the effects of external agents acting on the *gross machine*, and not primarily on the immaterial principle, as has, unfortunately for the subjects of disease, been too commonly apprehended."* It is rather mortifying to think that, even in the year 1827, it was publicly maintained in some of our best medical societies of this metropolis—and by men who are charged with the instruction of medical youth--that insanity might exist as a purely mental disease, and quite independent of corporeal disorder!! This fact proves how ill understood is the subject of insanity, even among the better informed classes of the profession.

COMMENTARY THE FIRST--MORAL CAUSES.

The causes of insanity are now pretty generally agreed to be moral and physical.

"Every impression on the sensorium, through the external senses, and every passion in excess, may become a moral cause of insanity. Thus all, however opposite, act as exciting causes, and will produce this result: joy and grief, anger and pain, love and hatred, courage and fear, temperance and ebriety, repletion and inanition, application and indolence, may have the same effect. Vices, also, which occasion changes in the physical constitution, act as remote moral causes, and induce mental derangement." 9.

All moral impressions affecting the feelings act first on the brain and nervous system—then on the heart and vascular system, which latter react on the former:—

"Hence there are two impressions: the one primitive, affecting the sensorium; the other, consecutive, but simultaneously affecting the heart. Thus the nervous and vascular systems are both implicated; and in this manner moral impressions become causes of insanity. The moral cause, therefore, is always the remote cause; the physical, *the proximate*, or that state of the cerebral functions which immediately precedes the peculiar action denominated maniacal." 10.

It is easy to see—or, at least, to believe, that this play of sympathies, or action and reaction of the two systems, nervous and vascular, must disturb the functions of both—and even affect their structure if long continued or excessive in degree.

It appears that the upper classes of society are rather less subject to insanity than the lower. The *former* suffer more from the moral causes—the latter, from the *physical* causes of the disease. In respect to the indigent classes, Dr. B. avers that the majority of cases of insanity, in them, "originate in direct *physical* causes, which the privations, and consequent misery, the poor suffer in all countries, as well as their vices, greatly multiply." Dr. B. does not seem to have been able to connect insanity with trades or professions—but acknowledges, with Rush, Pinel, Hallaran, and others, the powerful influence of political or civil revolutions of states, in the production of mental alienation.

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* Novum Organon.

The question now presents itself—do these moral causes, say grief, terror, jealousy, &c. operate *directly* on the mind, and induce mental derangement?—or must there always be an intervening corporeal disorder?—We would incline to the latter position, and it is evident that Dr. Burrows is of a similar opinion.

"All emotions of the mind, it is evident, are capable of disturbing the corporeal functions; and though in themselves moral causes, they become physical in their operation. Hence physical causes grow out of moral causes, and these frequently lead to insanity; *not, however, by direct impressions on the organ of the mind, but through the means of those morbid changes in the system which they gradually affect.*" 22.

Thus, then, insanity is a corporeal disease, and the manifestations of the mind are disordered because the organ of the mind is disordered.

The following passage will probably excite some criticism.

"Could we imagine a human being void of all feeling, moral or religious, mental derangement is not there to be expected through a moral cause. But even where reason is wanting, instinct prevails; and brutes have their passions, which, when excited to excess, or thwarted, produce madness." 23.

If by madness Dr. B. merely means a temporary furor (*ira* brevis furor est) then we agree that a horse or any other animal is liable to madness; but we question whether BRUTES are ever insane, in the common acceptation of the word. Monomania is the most frequent of all forms of insanity—and can Dr. B. prove that a brute has ever evinced insanity on a *single point*, being sane on all others?

In the second Commentary Dr. Burrows discusses the knotty point whether RELIGION should be looked upon as the cause or the consequence of insanity. Dr. B. properly remarks that any single passion, excited to excess, may induce mental derangement—and consequently RELIGION, "which influences the internal man more than the passions collectively, may be a cause of insanity."

"On the other hand, there is no doubt, that a lunatic may imbibe a religious as well as another hallucination, and yet be insane from a cause the reverse of religious. In the one case, however, it is a cause; in the other, an effect.

"Now a great source of error seems to arise from the confounding of this necessary distinction.

"Medical writers who have derived their chief experience from public practice, are most apt to err in this particular. The previous history of lunatics admitted into public asylums is rarely known; therefore the moral cause of the malady is frequently inferred from the tenor of their mental aberrations; than which nothing can be more deceptious. Hence it is to be feared, that many cases have been hastily attributed to a religious origin, merely because the conduct or conversation of the lunatic has exhibited traits of too vivid spiritual impressions. In private practice the opportunities of obtaining this essential information are superior; and upon a point of such serious importance, I have not omitted to avail myself of them." 25.

This is, perhaps, the true state of the case. We find a certain proportion of lunatics in an asylum harping on some religious topic, or fancying themselves deities of an upper or lower region. A hasty observer would attribute all these instances of monomania to religious meditation. It is probable, however, that one half of them were merely what is called "serious people," who being exposed to some of the various causes of insanity, exhibited, when insane, a religious hallucination. But as deep meditation on the mysteries of religion tends, in general, to perplex and bewilder the strongest intellect, we may easily conceive that an ignorant person, tinged perhaps with superstition, bigotry, or fanaticism, would readily become deranged in mind by lucubrations so unfitted for his intellects. Dr. Burrows appears to labour hard to show that *pure christianity* never leads to madness—but, "that it is from the *perversion* of it that many become the victims of insanity." We conceive that this is "splitting hairs"—or rather, "cutting blocks with a razor." It is the same as proving that no man is ever injured by medicine, but only by the perverse administration thereof. Thus, a man takes too large a dose of emetic tartar, and dies. Dr. Burrows would say, t'was not the tartrite of antimony that killed the man, but the mal-administration of the remedy. But granting that it is the *perversion* of christianity which leads to insanity, who is to be the arbiter of this perversion?

"Who can direct, when all pretend to know."

We confess that we do not clearly comprehend the drift of the following passage—though we are ready to admit that the want of comprehension is attributable to our own astuteness of intellect.

"But, although this be admitted, there is not a tittle of evidence to substantiate, that Christianity, abstractedly, ever produced that effect. Such accusations are the abortions of infidelity, or of those who lack knowledge. Religion may have been reproached by careless observers as the source of mental derangement, because it is often associated with misery;—for affliction induces many earnestly to seek religious consolation, who previously never thought of it, or who but mechanically followed its outward forms. In minds broken down by adversity, and little acquainted with its genuine precepts, a consequence, opposite to that which was sought and expected from religion, sometimes ensues: in this case the moral feelings have greater force than the spiritual, and the disappointment is not the default of the principles of the Christian faith.

"Constitutional temperament also interposes, and often distorts the truth; and thus generates an opinion, that melancholic insanity is the effect of religious impressions. Minds so framed view all the blessings of this, or a future life, by involution. Their greatest gratification is persistive despondency. Deaf to precept or example, they retort:—

"Go—you may call it madness—folly—
You shall not chase my gloom away;
There's such a charm in melancholy—
I would not, if I could, be gay!"

But we shall leave this subject—convinced as we are, and even at the risk of being called infidels or ignorantes, that religious meditations, with the best intentions, precipitate many a mind, weak and strong, into the gulf of madness. This, indeed, is admitted plainly enough by Dr. B. himself at the end of the commentary.

"Were I to allege one cause which I thought was operating with more force than another to increase the victims of insanity, I should pronounce, that it was the overweening zeal with which it is attempted to impress on youth the subtle distinctions of theology, and an unrelenting devotion to a dubious doctrine." 56.

Comment. III.—Physical Causes.

We now come to more tangible, but not less debateable ground. Dr. B. justly observes that "the great obstacle to the knowledge of the pathology of insanity, has been the long-prevailing error of studying the *mental* to the neglect of the corporeal phenomena which are *almost always cognizable.*"

"The hallucinations of the mind being clearly only the signs of *its* disorder, as symptoms are of corporeal disorders, they are but of secondary importance in the study of insanity." 59.

Here Dr. B. falls into the usual error of attributing disease or disorder to the *mind.* If the mind be immaterial, it cannot be subject to disease. If material, then it is a part of the body, and the cause of disorder is still material. A patch of erysipelas on the skin, or a thorn in the foot, will cause delirium, in which the functions of the mind are as completely deranged, to appearance, as in raging insanity. Yet, who would say this is a disorder of the immortal mind? Is it not clearly a disorder of the body perverting the manifestations of the mind? We perfectly agree with Dr. B. that it is useless—worse than useless, to dwell on the *mental* aberrations. Of what consequence is it, whether the lunatic fancies himself a god or a devil—a philosopher or a conjuror—a tea-pot or a tiger? Ought we not to prefer examining the various signs which indicate *functional* or *structural* lesion? It is useless to go over again, with Dr. Burrows, the discrepancies between the material and immaterial doctrines of insanity. Dr. B. in commenting on Mr. Coombe, makes use of the following expression.

"Can any comparison be endured between the *divine immaterial function of the brain,* and the palpable and material functions of other parts of the human body." 65.

The *divine immaterial* functions of a mass of *matter!* The *palpable* functions of other parts of the body! Has Dr. B. ever seen or fingered the *function* of secretion, for example? We can see *blood* going to the liver, and we see *bile* coming from it;—but if any man ever saw the *function* of secretion, by which the one is converted into, or separated from, the other, we are ignorant of his existence. On the contrary, we fearlessly maintain that the secretion of bile in the liver is just as great a mystery to us, as the secretion of Paradise Lost from the brain of Milton.

In this country, Dr. Marshall appears to have been the first who conceived that insanity might be a corporeal disease, and dependent on disease of the brain. For this opinion he was violently assailed by the late John Hunter. To support his doctrine, Dr. M. made many dissections at the Old Bethlem; but his Morbid Anatomy of the Brain, in mania and hydrophobia, was not published till 1815, after the author's death. Haslam's dissections preceded (in point of publication) those of Marshall. Both tended to illustrate the subject of inquiry, "and fully prove a morbid condition in the encephalon of the maniacs submitted to their inspection."

"However, when it was proved, beyond dispute, that the brains of maniacs commonly presented morbid appearances, it was assumed that these alterations were the causes of the disorder; but it was soon objected, that such were the effects, and not the causes, of intellectual derangement. Among these sceptics were Crowther, Black, &c., and their doubts coincide with the opinion of many eminent physiologists who have since entered upon the inquiry. Others, while they cannot yield acquiescence in these conclusions, admit them with certain modifications." 69.

Bonetus, Morgagni, and other anatomists, indeed, had not been able *always* to find corporeal disorder in the heads of maniacs—and such is the case with modern pathologists.

"I have myself (says Dr. B.) assisted at several accurate anatomical investigations, conducted by eminent demonstrators, of the crania of insane patients who have been under my care, and who had exhibited up to the hour of their disease the most furious symptoms of mania for months, and yet not a vestige of disease could be traced." 70.

But, as Dr. B. properly observes, we are not in a condition to *know* when disease exists in the brain. Could any one *detect* the changes which obtain during functional disorders in the brain and other organs? No, indeed! And yet there must always be some change in a part corresponding with the functional disorder of that part, however incapable we may be of detecting it by the scalpel.

"This, however, is certain—that when an insane person has been cut off by an acute disease or accident, or has destroyed himself, and the insanity has been of short duration, there are seldom exhibited any alterations, or morbid appearances in the encephalon, beyond slight vascular congestions or effusion. But in long-standing cases, a *post mortem* examination generally exhibits strong evidence of disease in that organ. Sometimes, however, violent insanity has continued for years, and not a visible trace of diseased structure or action has been discovered in the brain or elsewhere." 71.

Dr. B. asks, "is not the human body subject to, and influenced by peculiar diatheses?" He refers to the apoplectic, hydrocephalic, scrofulous, and gouty diatheses, which may exist without any appreciable change of structure.

"Were we to insulate a portion of a dead body, and examine its texture, without a previous knowledge of the disease affecting the person while living, could we decide what disease had existed? Why, therefore, should not the brain be influenced by the same laws, and undergo a specific change, and be the site of disease of which there is no visible trace? Why, in fine, should we expect to discover by the eye the maniacal diathesis, when all others are impenetrable?" 73.

Dr. B. asks farther:—"who can say that excitement, nay inflammation itself, has not existed in the brain, if the circulation through a great part of it is, as it is said to be, colourless?" A morbid action, as we before observed, of other important organs is indicated by appropriate symptoms; and yet, on dissection, the organ suspected often appears sound. It is so with the brain. It may be, and is, incapable of manifesting correctly the operations of the mind, long before its disorder is appreciable by the senses.

To argue, as some have done, that, as there is no appreciable lesion of brain in insanity, so there is no use in directing any material remedies to the body, is sheer nonsense. The same argument might equally be applied to all other diseases. They are at first functional, and the appreciable change is a subsequent process.

In respect to the changes actually found—and we believe they will be found in at least four cases out of five—after death, there is no doubt that some of them are *post mortem* changes, and therefore not to be considered either as causes or effects of insanity. Serous effusion may be instanced in illustration.

"Much important information may be elicited from the labours of men possessing such extensive opportunities as Greding, Esquirol, Georget, Neumann, &c. And the collection made by Dr. Scipion Pinel, embracing those of Messrs. Esquirol, Villermai, Beauvais, and Schwilgaé, and which, in the aggregate, comprise two hundred and fifty-nine dissections of maniacs, offers a mass of pathological examinations particularly worthy of record. They are thus classed:—

"*Lesions of the Brain.*

" Apoplexy	27	
Organic lesion of the substance of the brain	19	
Organic chronic lesion of the membranes	22	
		— 68

"*Lesions of other Organs.*

" Chronic peripneumony	20	
Phthisis	22	
Chronic peritonitis	9	
Chronic pleuritis	7	
Chronic inflammation of the digestive canal	50	
Other organic lesions of this viscus	13	
Lesions of the liver	5	
——— kidneys	3	
——— ovaries	2	
——— uterus	4	
		—135
		203

"In the other fifty-six corpses there was no visible evidence of disease in any of the viscera of the three great cavities! The spinal chord was examined in only two cases.

"From these dissections it follows: 1. That lesions of the brain, the organ of the intellectual functions, are in the proportion of one to two of those of the other viscera; 2. That more than *one* in *five* corpses of maniacs present no evidence of any disease whatever! 3. That in a great majority of cases, the insanity was a sympathetic affection; and, 4. That as, in more than a fifth of 259 dissections, no lesion or alteration could be detected, it strongly corroborates the opinion, that, when such lesions or alterations are observed, they are posterior, and not anterior, to the development of the mental derangement." 75.

Certainly they are posterior. Take the pleura, the peritoneum, the stomach, the liver, or any other organ. The disorder of function always precedes the change of structure. In the brain this is peculiarly the case, from the multiplicity and spiritual nature of its functions. But, as our author observes:—

"From whatever predisponent cause insanity may proceed, if it be not primarily an organic affection of the brain, it ends in being so. This seems demonstrated by the facility of its cure at the beginning of an attack of mania, comparatively with the attempt made at a more protracted period." 76.

Although absurd speculations have been entertained respecting the character of the living, as ascertained by the appearances of the dead brain; yet one thing is certain, that "in the brains of connate fools, some defect or anomaly is *always* discovered, from which it might be inferred, that for the mind to be perfect, the organ of the mind, *ab origine*, must also be perfect." This is a natural enough conclusion—and although men have appeared to be possessed of *perfect minds*, whose brains were found imperfect after death, yet it by no means follows that the cerebral fault occasioned no corresponding defect in some of the mental faculties. Thousands, nay millions of men are going about, in the enjoyment of complete sanity of mind *apparently*, who are nevertheless, as decided MONOMANIACS as ever entered the walls of Bedlam. We need not travel out of our own profession for examples. There are maniacs writing in our medical journals—maniacs lecturing in our public theatres—maniacs editing the productions of maniacs—and maniacs reading and listening to the effusions of madmen! The senate, the pulpit, the bar, offer similar examples.

Dr. Burrows enters into a slight criticism on the doctrines of some of the Continental pathologists, who think they have discovered a certain correspondence between organization and insanity. Thus M. Bayle maintains that mental derangement, in a majority of cases, is the result of positive chronic inflammation of the membranes of the brain.

"He describes two kinds of inflammation, each having perfectly distinct anatomical characters and symptoms; the former he denominates chronic or latent *arachnitis*, because it principally has its seat in the arachnoid; and the latter, *chronic meningitis*, because it conjointly affects the pia mater as well as the arachnoid membrane. The latter affection, he asserts, is so uniformly attended with incomplete paralysis, that of 1453 cases of mental alienation, a fifteenth of the men, and a twenty-eighth of the women, were affected with this symptom." 78.

This author is confident that he is able, not only to connect specific symptoms of mental disorder with specific morbid conditions of the encephalon, but also to show that, in a great proportion of cases, the commencement of the mental disturbance is to be imputed to a chronic disease of the membranes, of which he describes the forms, stages, and complications.

"He concludes, that the kind of mental alienation he has described is the effect of the irritation or inflammation of the gray substance of the brain, which immediately deranges its functions. This irritation and this inflammation are in their turn direct results of a chronic inflammation of the membranes, which commences on their internal or cerebral face.

"Of one hundred dissections of the brain, he did not meet with a single exception, he says, to the diseased appearances which are connected with the symptoms of this form of mental disorder." 80.

CALMEIL has pursued a similar route, and drew his observations from the same public establishment—the CHARENTON.* There are some discrepancies of opinion, and even of facts, between these two authors—and though "it is impossible not to suspect that too much enthusiasm and aptitude for theory have influenced the pursuit—and that extraordinary facilities for morbid examinations sometimes tend more to encourage speculative theories than to advance truth," yet we cannot but lament that the *overflowings* of foreign zeal do not sometimes make their way into this country. Considering the strong tendency in the human mind to theorize, it is full as likely that those men should run into false doctrines who have no pathological data to direct them, as that men who are constantly comparing symptoms with dissections, should wander into the wilds of imagination. M. Bayle has been supported by Falret, as well as by MM. Calmeil and Voisin, and our author confesses that—"though sceptical, he is bound to consider that the evidence is respectable." We need not dwell on the opinions of many authors, as Vogel, Dumas, &c. &c. who considered insanity to depend on inflammation, chronic or acute, of the cerebral substance itself.

"I see no reason (says Dr. Burrows) why a state of irritation, or morbid action of the brain distinct from inflammation, should not obtain, and produce disorder of the intellectual faculties, as well as the more violent action of inflammation.

Irritation, too, is not irrationally assumed to be the parent, or initiatory step to inflammation; for irritation primarily affects the balance of the circulation, and the impulse once given augments it, and induces reaction. Hence the nervous and vascular systems act and react on each other; and hence various diseases originate. Irritation, too, like inflammation, may have its varieties; for, in one part or texture, it may be excessive—in another, it may never arrive at activity—or either may exist in a part or organ in different degrees of activity." 85.

The examinations of the brain having proved unsatisfactory, pathologists have directed their attention to other viscera of the body, with the hope of being more successful. As in the brain, they discovered traces of disease in the heart, liver, stomach, uterus, &c. and thence drew their respective conclusions. Esquirol found a peculiar condition and position of the colon in many maniacs, and thought that this might operate as a sympathetic cause. But it has been found in men who had not been insane—and, in fact, it is rather a rare occurrence in those who have been so.

Dr. Burrows observes that, "the influence of sympathy in the production of insanity, is very extensive, and probably is the most common source of it." Van Helmont revived the ancient opinions respecting the sympathetic actions of diseased viscera on one another, and especially on the functions of the brain. He considered the viscera as the centre of sensations, whence they radiated on all surrounding parts. Bordeu, Barthez, Portal, Dumas, Cabanis, and most of the French physiologists, are imbued with the principles of Van Helmont.

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* De la Paralysie considerée chez les Aliénés. 1826. Of which we have given an ample analysis in a former number.

"Although we know not the causes, nor the mode by which sympathies act, yet we have abundant proof of their operation in originating diseases which reciprocally act on the mind.

"There is no organ with the morbid actions of which the functions of the brain so frequently sympathize as the liver. As the connexion is intimate, so is it reciprocal; for morbid actions of the former equally, and perhaps as frequently, disturb the functions of the latter. In importance, the functions of this organ are only second to those of the brain, as far as regards the operations of health: and, as in the brain, so too in the liver, the circulation of the blood is complex, and very liable to be interrupted by extrinsic causes. Hence the greater facility of disturbing its functions.

"All the passions, anger especially, violently affecting the sensorium, act immediately on the liver; and every excess that disturbs the functions of the stomach, easily determines blood in undue proportion to the vena portarum, where, on account of the remoteness of this vessel from the heart, the motion of the blood is always sluggish, and therefore congestion is easily induced. The bile, consequently, is secreted in scanty quantities, the alimentary processes become ineffective, a morbid action of the connecting nerves follows, and the functions of the brain are implicated and disordered.

"Many facts attest, that blows on the head will create, not simply disordered function, but disorganization of the liver; and *vice versâ*, nothing is more common than instances of mental disturbance originating in injuries of this organ, or in secretions of morbid bile, or obstructions of the biliary ducts by gall-stones, spasm, &c.

"Diseases of the hepatic system will even originate delirium, furious mania, melancholy, and suicide.

"Insanity is much more common among the lowest classes than the supporters of its mental origin are inclined to admit. Now, drunkenness is certainly the great vice of this class in Great Britain and Ireland, and the propensity is gratified usually by ardent spirits. In a table of 1370 lunatics, admitted into the Asylum of Cork, Dr. Hallaran says 160 were insane from this unhappy indulgence." 94.

The liver cannot be diseased from inebriation, without the stomach participating—and Dr. B. acknowledges that "a morbid condition of the chylopoietic viscera is sympathetically a frequent cause of mental derangement." But, after all, the brain must be affected before insanity can take place. Affections of other organs, like moral emotions, may be the remote causes—the proximate cause must be in the organ of the mind.

COMMENTARY IV.—HEREDITARY PREDISPOSITION.

This chapter or commentary may be dispatched in a few lines. No pathologist now entertains doubt or cavil respecting the transmission of a disposition, predisposition, (or whatever other name we may choose to give it) to certain diseases, from parent to progeny. This truth applies equally to mania as to phthisis—another proof of the corporeal nature of the malady. A peculiar organization of the brain predisposes to insanity, in the same way as a peculiar organization of the lungs predisposes to consumption! The features of internal organs are transmitted like the features of the face. The hereditary qualities of the mind are only marks of hereditary organization. We shall quote one short passage from this commentary.

"My opinion upon two points relating to this interesting question has been sometimes professionally required by those contemplating marriage, and who were conscious that insanity had existed in one or the other of their progenitors; First, whether a person born of parents in whom insanity has never been developed, but who, one or the other, were descended from a family so afflicted, was capable of propagating it in his own children? Secondly, whether a child born before insanity had been developed in either parent was as liable to become insane as one born after it had been developed?

"To the first question I have answered in the affirmative; because I have met with many insane persons neither of whose parents had themselves been insane, but the progenitors, brother, or sister, of one or the other of those parents, were so.

"To the second I have replied, that a child born either before, or after the accession of insanity in a parent, provided that parent's progenitors or relations in blood had been insane, was liable to hereditary insanity. But if the insanity of the parent were adventitious, and not hereditary, the child born before the mental disorder had occurred of course could not have had it by inheritance; but how far a child born after the occurrence of the adventitious insanity was liable, I could not decide." 107.

We must pass over the remaining commentaries in the first part of the work, in order to direct as much as possible of our attention to the second part.

PART THE SECOND.

This part opens with a long examination of the definitions and divisions of insanity—the former of which is considered an "ignis fatuus in medical philosophy, which eludes and bewilders pursuit." Of the multitude of terms which have been invented for the disease Dr. Burrows prefers INSANIA, a name sufficiently recognized and sanctioned by ancient and modern authority, and which, he thinks, may fairly comprise "every form of intellectual disorder."

"All the causes, physical and moral, of insanity have existed since the origin of man. Hence we may conclude, that all those forms which the moderns have arranged as so many genera or species, were familiar to the ancients, who, above all, were most exact in clinical observation and accurate delineation of symptoms. They were content with simply dividing all mental disorders into two principal affections, mania and melancholia, to which they added frenzy or fury." 250.

Surely Dr. B. must have been precipitate in concluding that the progress of civilization has not multiplied and added greatly to the catalogue of moral and physical causes, not merely of insanity but of many other diseases.

"Dissections demonstrate that the morbid appearances in mania and melancholia are the same, and the like in respect to all the varieties recognised; such as monomania, theomania, demonomania, erotomania, suicide, lycanthropia, zoanthropia, panaphobia, nostalgia, &c. No form of insanity is characterized by any peculiar organic change. Such investigations, therefore, oppose all divisions founded on organic causes, though they confirm most satisfactorily the common origin and relationship of every form which presents itself." 251.

If no form of insanity be characterized by any peculiar organic change, how can it have been demonstrated that the appearances in all the varieties are the same? There is, indeed, considerable looseness as well as confusion of thought—or at least of language, in many parts of this work, as if it had been written in haste, though its composition occupied a period nearly as long as that of the siege of Troy. While our author pronounces all classification of mental disorders as "worse than useless," yet he admits that "a distinction between them (mania and melancholia) should be recognised and preserved," not only for convenience, but because the treatment applicable to the one is not always so to the other. Upon the whole, Dr. Burrows considers Dr. Esquirol's division into four species, *mania*, *monomania*, *demency*, *and idiocy*, as the best, though he objects to the term MONOMANIA, as a substitution for melancholia. His principal objection hinges on the ORGANOLOGY of the phrenologists—a science which seems to haunt the worthy Doctor like a dæmon, disturbing his repose, and exciting his ire or ridicule, on convenient or inconvenient occasions. By a most singular mode of reasoning Dr. B. concludes, that as the number of *hallucinations* is infinite, while that of the organs is limited, so the delusion "stamped on a monomaniac's mind (which differs in every case) cannot be the emanation of a distinct organ or portion." Granting for a moment, that there was an organ of RELIGION, might there not be many *forms of hallucination* dependent on the deranged function or structure of that organ, without any great violence to probability or analogy. If one man paid his orisons to the devil and another to our Saviour, in an extravagant or insane degree—or if one man prostrated himself before each cow that he met, while another watched eagerly for the rising sun, as the god of his idolatry,—would not Dr. B. consider all these individuals as affected with religious monomania, though the hallucinations were as different as day is from night?* We cannot therefore see, with Dr. B. that "there is, at present, great danger in using the word monomania," lest it should be "applied in one sense, while another is meant." The Doctor, however, prefers the term MELANCHOLIA, and as long as we know that by this he means MONOMANIA, why let him have his way. For our own parts, we think the latter term infinitely preferable, and that without any reference to phrenology. The order which Dr. B. adopts runs thus: INSANITY—comprehending, 1. Delirium—Delirium Tremens—2. Mania—Puerperal Insanity—3. Melancholia—Suicide—4. Hypochondriasis—5. Demency—6. Idiocy.

The Second Commentary of this part of the work is very long and desultory, though abounding in curious and instructive facts and observations. It is on the "CHARACTER of INSANITY"—and we can only notice some of the phenomena grouped by the learned author under the heads—physiognomy, position, sensation, muscular powers, fasting, odour.

1. *Physiognomy.*—All men, and even many animals, are physiognomists. But if it be difficult to judge, from the expression of a sane person's features, of what is passing in the mind, how much more difficult must it be to form a correct judgment from his whose aim is to deceive—whose mind is regulated by no rule, and whose ideas and actions are wild and incoherent?

"The feature which undergoes the most singular and striking change is the eye. The pencil or graver may portray, with tolerable fidelity, the contour of the countenance in the varied states of maniacal fury, melancholy, fatuity, or idiotism; but the skill of art is vain in delineating the peculiarities in the eye of the lunatic. The pen is equally, or perhaps more, incapable of describing it. Now red and fierce, then audacious, threatening, steady, or mobile; sometimes brilliant, quick, and flashing fire; or dull, desponding, fixed, and vacant; and in most cases presenting a remarkable glassy or shining appearance." 282.

Those who are familiar with the insane can seldom be mistaken, when they pay attention to the eye. Language and behaviour may deceive—the mobility of feature may be rapid as the imagination is vivid; but when every feature shall vary, or be kept under control, the eye may still indicate the erring thought.

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* We would ask Dr. B. whether a disordered stomach will not, at different times, produce different symptoms, even in the same individual; and yet no one would argue from this that each train of symptoms must have a separate stomach for its source. It may be the same with any of the organs composing that congeries or aggregate called the brain.

The suicidal tendency, Dr. B. observes, is denoted by a peculiar expression of the eye, which cannot escape the practised attendant.

This organ indicates the material condition of the brain, as well as the state of its intellectual functions. Phrenitis, hydrocephalus, apoplexy, epilepsy, as well as mania, have their appropriate expression of eye.

"Sometimes the pupil will be dilated to an extreme, and the patient will bear, without blinking, the direct rays of a vertical sun; sometimes the pupil is concentrated to a pin's point, and light is a source of extreme irritation. The eye is frequently much protruded in mania; but this is not owing to extreme pain, as in phrenitis, or to greater activity or fulness of the blood-cessels, as may be suspected in hydrocephalus or apoplexy. During the maniacal paroxysm, as when horror-struck, the eyelids are forcibly separated and retracted, so as to expose a circle of the surrounding albugineous substance, which gives a greater appearance of prominence to the orb than is really the case. Sometimes the eye-lids recede, from absorption of the adipose supporting the eye-ball, and general emaciation of the face, as is seen in persons after extenuating illness; and then also the eye looks enlarged and protuberant." 283.

It is curious that, in many persons predisposed to violent mania, the iris is so black that it can scarcely be distinguished from the pupil. The melancholic have generally blue or gray eyes. Esquirol has given graphic sketches of the principal forms of insanity—and Dr. Morrison has published in his Outlines several excellent portraits.

2. *Position.*—Maniacs and young children are often incapable of indicating the actual seat of pain, and it can only be discovered by external signs, and especially attitudes. Ease and freedom of position, with soft and regular breathing, indicate health—supination denotes great prostration of strength—"lying on the belly is a sign of pain in that part, and is often a prelude of delirium." Many lunatics rub or press their heads with their hands, and acknowledge that they feel pain there, if interrogated. Maniacs and melancholics, have often a decided partiality for the sitting position—many others crouching with their knees folded towards their chins. Not a few have a positive horror of the recumbent posture—a phenomenon which seems to indicate a determination of blood to the brain in that position. Maniacs, however, assume various positions, many of them apparently connected with the mental hallucination that reigns in the imagination. Thus a religious lunatic will take a fixed posture, directing his eyes towards the Heavens, with steadfast look, as if lost in adoration. Sometimes he bursts into immoderate laughter at his own conceits:—while others are immoveable—fall into imperturbable silence, with averted eyes, apparently overwhelmed in concentrated sorrow. Such movements and actions, as Dr. B. justly observes, are the offspring of a creative and bewildered imagination, and are not to be regarded as indications of peculiar corporeal feelings.

"3. *Sensation.*—Some authors, and Darwin among them, have supposed insanity to be a disease of pain; and hence the cries, screams, moans, howls, and vociferations of the insane, have been ascribed to the bodily agony they suffer. We must not, however, imagine that these are indications of bodily suffering, any more than that they really feel pain in the various remote parts to which maniacs often refer. When cephalalgia is complained of, it is generally as a precursory symptom, or in the incipient stage of insanity; but the existence of it is never expressed by cries, &c. Severe pains have been felt in the stomach, intestines, and other organs, previously to a maniacal paroxysm; but when the delirium of insanity is developed, the morbid action of the remote part being transferred to the brain, the organ originally affected is commonly relieved from suffering." 286.

We do not quite agree with Dr. B. in the foregoing passage. He seems to overlook the sensations of organic life—in other words, the sensations of the ganglionic nerves, which cause the most horrible sufferings without any thing like common pain, as experienced in the nerves of relation, or cerebro-spinal nerves. We do not wonder, therefore, that, on inquiry, Dr. B. has not been able to elicit from recovered lunatics any information respecting the cause of those "screams, moans, and howls" which they had formerly uttered. The two following cases are curious, and physiologically interesting.

"A gentleman, aged thirty-six, insane, with a strong hereditary predisposition to suicide, contrived, during the temporary absence of his keeper, though his legs were fastened together, to kick a hole in the fire-guard, and thrust his feet into a quick fire, which he made more fierce by tearing up a book, and thrusting the leaves in. He was found a few minutes after, sitting very composedly in this position. His toes, and part of one foot, were severely burnt; the other escaped with a smart scorching. In the burnt foot, inflammation, extensive and deep eschars, and mortification, with sloughing of the muscles and tendons, followed; and, finally, all the bones of the toes, and some of the metatarsal bones, sloughed away. The cure of this foot occupied more than a year; the scorched one soon got well. But neither during the combustion of the toes, nor for months afterwards, upon removing the diseased parts, or dressing the wound, was any pain expressed. But when the mind improved, and the desire of suicide diminished, which it did long before the wound healed, he complained violently of the pain he suffered from it, or when it was dressed.

"A French dragoon became insane from a *coup de soleil* during the Spanish campaign. In his delirium he found means to get at a vessel on the fire filled with boiling water, of which he drank, at a draught, about a pint, and then quietly returned to his bed. He remained two days without eating or drinking, and without complaint, though his mouth was much inflamed and eschars had formed. Six days after this circumstance, an abundant ptyalism came on, which was succeeded by a copious diarrhœa; and in three or four days afterwards he recovered his health and intellects." 290.

4. *Muscular Force.*—This, in the insane, is sometimes truly marvellous—and is evidently dependent on the violent excitation of the sensorium. We all know what power even a delicate female will exert, in a paroxysm of hysteria. The following passage is worthy of the attention of the junior practitioner.

"The astonishing muscular power exercised by the insane is often mistaken for proof of real strength; and hence a depleting practice is often adopted, fatally injurious to the patient. The fury which prompts this violent exertion may be abated, or even subdued, by these means. But it should ever be remembered, that a state of exhaustion naturally follows these paroxysms; and then the vital power, which the depletory measures have subtracted, may be wanted to prevent worse consequences." 293.

5. *Fasting.*—The insane not unfrequently resist the natural desire for food, either from a suicidal tendency, a fanatical resolution, or a dread of poison. In these cases, the constitution will suffer and sink, if nutriment be not introduced by force or persuasion.

"Nothing is more common than for the insane to object to food from an apprehension of poison in it; but it must not be always considered as a delusion when they refuse it on that ground; for sometimes their taste is so perverted or depraved, *that all substances partake of the same flavour, and often a very nauseous one.* We must, therefore, if possible, ascertain whether the rejection proceed from indifference, religious scruples, a determination to starve themselves, fear of poison, or real distaste, because the mode of acting must accordingly vary." 296.

The explanation of Dr. B. as marked in Italics, differs from that of some of our Continental pathologists, who attribute the horror of food to an inflammatory state of the gastro-intestinal mucous membrane.

Odour.—Mania is distinguished by a peculiar odour, which can never be forgotten, after being once felt. "It is not," says Dr. B. "the *hircum olet* of Horace, but is a smell quite unique." It is not always an attendant on mania; but when present, Dr. B. considers it "a pathognomonic symptom so unerring, that if he detected it in any person, he should not hesitate to pronounce him insane, even though he had no other proof of it." This is strong language, too strong, perhaps, for medicine.

"I remember the case of a very delicate young lady, of good family, and highly educated, who became insane; but whose family would not admit the correctness of their physician's judgment, till her mother, having somewhere heard of this characteristic symptom, upon entering her daughter's chamber before she had risen, detected this peculiar fetor; and then she yielded to conviction of the nature of the malady." 297.

This young lady was the patient of the writer of this article; and when the maniacal paroxysm was strong, and her temper much irritated, the odour was almost insupportable.

The second Commentary, in this division of the work, treats of DELIRIUM, chiefly with the view of drawing a distinction between this affection and insanity. The distinction is more easily made in practice than in words, which is so far fortunate, and therefore we shall pass it over. The commentary in question, however, contains a great deal of research and information respecting the various kinds of delirium, as that of acute diseases,—as resulting from wounds—from long fasting—and from the approach of death:—

" 'Expression's last receding ray,
A gilded halo hovering round decay;' "

"The simple but sublime elevation of the mental over the corporeal essence, when the present world and all its attachments are unloosed—when we cast off all the grossness of mortality, and are putting on immortality." 317.

We cannot but look upon the above specimen of delirium,—"that state of the intellectual faculties *often* evinced at that awful crisis when death approaches, and which imparts to the words and acts of the dying an *apparent spirit of divination*," as an amiable flourish of the worthy Doctor's own imagination. From circumstances unnecessary to be mentioned here, we have had but too many opportunities of witnessing the dying scenes of humanity. We are sorry to say that we never observed any of these "gilded haloes" hovering round the couch of death, and marking the dissolution of that mysterious tie which holds mind and matter united in this world. On the contrary, it has but too generally happened that the mental manifestations sank, *pari passu*, with the bodily functions—nor did we ever see an exception to this rule, where the material organ of the mind was involved in disease. Small then is the hope of immortality, as founded on these "words and acts of the dying," on the "apparent spirit of divination," which is said to be "so often evinced at that awful crisis when death approaches."

The fourth Commentary is on DELIRIUM TREMENS, a disease which has obtained so much attention in this Journal, of late, that we need not dwell on the subject in this article. We shall, however, offer one or two short extracts indicating Dr. B.'s pathology and treatment of the disease.

"The nervous system is, by frequent application of so strong a stimulus, at first violently excited and irritated; and by repetition, the sensorium is so affected as to occasion a temporary effect similar to partial palsy. In time, organic changes of the viscera implicated in these morbid actions take place, and death, or permanent alienation of mind, ensues." 326.

TREATMENT OF DELIRIUM TREMENS.

"But the first and most essential duty, upon being called to a patient with delirium tremens, is to ascertain to what extent his previous habits of drinking have been carried, and how far his constitution has suffered, and to prescribe accordingly. If, as I have said, the constitution be little impaired, and the symptoms of cerebral excitation run high, very moderate depletion by cupping, and purging, and the antiphlogistic diet, may be premised; and the exhibition of opium, in such doses as will induce sleep, should follow. If, on the contrary, the patient is advanced in years, and is a confirmed bibber, abstraction of blood should be avoided; his bowels should be merely kept soluble; a little spirit of wine, diluted with water, and light nourishment be allowed; and he will require larger doses of opium before sleep can be produced.

"Even if opium do not procure sleep, yet there is this decided advantage from its exhibition—a state of quietude is obtained, equally desirable for the patient and his attendants." 333.

We must pass over the remaining Commentaries in the second part, containing dissertations on puerperal insanity, on senile insanity, suicide, hypochondriasis, demency, and idiocy, because we wish to dedicate the sequel of this article to the treatment of the malady. This subject is commenced in the first commentary of part V. and is continued through five commentaries.

Our author wisely disclaims all knowledge of "an antimaniacal remedy," nor does he profess the charm of *novelty* in his treatment of the disease. He tells us that the plans laid down by Areteus, Celsus, Galen, &c. although founded on a different pathology, are, "in most points, well adapted to the pathology founded on the anatomical discoveries of modern investigations." Dr. B. assures us that he has not attempted to defraud the moderns of what is owing to them; but he acknowledges that he is more indebted to the ancients than the moderns for what success may have attended his efforts. Dr. B. observes, and truly too, that "no mental disorder can originate except through corporeal disorder; and the *only* remedies for a mind deranged are those which apply to the corporeal derangements that *influences* (why not say at once, *causes*) the mental derangement." The physic for the mind is moral discipline. The cure of insanity is usually divided into medical and moral. Dr. B. begins with the *medical*—we shall take the liberty of reversing the order. We shall begin with the subject of

SECLUSION.

There is no general maxim in the treatment of insanity, wherein medical practitioners are so unanimous, as that of separating the patient from all customary associations—from family—from home. We do not much wonder that the feeling of the non-professional public should be strongly opposed to the faculty on this point. Dr. B. has seen a few, and but a few, patients recover in their own domiciles.

"The only case where it (separation) may be dispensed with, is when the affections are in no way perverted, nor the existing delusions associated with home, or any person or object about it. But even then there are other circumstances to be considered which may prevent recovery while in that situation.

"Few persons when they become insane acknowledge being so: consequently, when they find themselves placed under control in their own houses, denied intercourse with their families, and their orders not only disobeyed, but their own servants concurring in controlling them,—they are naturally infuriated to a high degree, or imbibe a plausible and strong suspicion that a conspiracy is formed against their life, liberty, or property. These are irresistible reasons why insane persons should be removed from home." 697.

On the other hand, where the insane is removed to a strange place, and put under the control of strangers, a moral influence is thereby established, to which he usually submits, and a cure is to be expected which could never take place at home.

MORAL TREATMENT.

Dr. B. acknowledges that the moderns are superior to the ancients on this point. This is curious too, if "the qualifications (of the physicians for moral management of the insane) are intuitive, not acquired." Here then is another link between poetry and madness. POETA NASCITUR NON FIT. So it is, we find, with the MAD DOCTOR! But though specific rules cannot be laid down for the management of the insane, "yet a few general principles are recognised which embrace almost the essence of this department." These are:—

"First, Never to exercise the mind of an insane person in the sense of his delirium.

"Second, Never to openly oppose the morbid ideas, affections, or inclinations of the insane.

"Third, which is a consequence of the two preceding, to give rise, by diversity of impressions, to new ideas and feelings; and thus, by exciting fresh moral emotions, revive the dormant faculties.

"Fourth, Never to commit one's self to an insane person by a promise; but if inadvertently a promise be given, faithfully to adhere to it, unless certain that the fulfilment will be attended with worse consequences than the breach of it.

"These principles are not for the government solely of the physician, but of every one who has the charge, or is attending on, or visits casually, a lunatic." 668.

It is in the stage of convalescence that the great art of moral management becomes conspicuous. But as this art cannot be communicated in words, we shall dwell no longer on the subject.

RELIGIOUS COMMUNICATION.

This is a mooted point in the present godly times. If religion be sometimes the cause of insanity, as Dr. B. himself allows, it may easily be conceived that the application of the same, in the way of cure, must be a very delicate operation, and require unusual discretion. This application, Dr. B. avers, and we believe, with reason, can never be admitted as a general principle. Divine service, in the usual forms, has been tried in Bethlem, Glasgow, Lancaster, and some other asylums, and it is said, with advantage, when the discourses were suitable to the patients selected. But the statements on this head are to be taken, cum grano salis, for obvious reasons. We are not certain that Dr. B. was not influenced a little by the opinions of the PURITANS, rather than by his own experienec, when he penned the following sentence.

"Governed by these rules, (judicious selection and suitable discourses) I have never experienced any ill, but, on the contrary, much good effect, by a proper attention to religious observances among the patients of my own establishment." 680.

We should be glad to know who it was, Dr. Burrows, or the Parson, who was constituted the judge of the suitableness of the sermons? It could not surely be the latter; for how was he to know the state of the patients, of their capacity for religious discourses. It must have been a novel sight to observe the physician in consultation with the minister, every Saturday night, on the nature of the sermon which was to be preached next morning!

"Before religious instruction in any form be attempted, let it be received as a maxim, that an intimate knowledge of every patient's state of mind, and of his former and present opinions regarding religion, should be first ascertained; and till all doubt on this head be removed, every interference should be suspended. This information, among a great number, is difficult to obtain. Even when obtained, the admissibility of this powerful auxiliary, in assuaging the anguish of a troubled mind, and aiding the recovery of convalescent lunatics, must be left to the judgment of the physician; but, above all, if in an asylum, to the accuracy of the superintendent's discriminating faculties. Hence it is easy to conceive how great an adept he ought to be in fathoming the recesses of the human mind." 681.

We apprehend the foregoing passage goes far to settle the question of preaching to the insane. But we must now descend from a higher to a lower flight--from religion to physic.

MEDICAL TREATMENT.

This department of the work before us, and indeed of every English medical work, is highly characteristic of the national polypharmic feeling A a continental physician would luxuriate in the delineations of the indications to be pursued, and the pathological conditions which were to be obviated, leaving, almost entirely, the means for fulfilling both these intentions to the judgment of the practitioner. Not so the English physician. He displays an almost interminable list of individual medicaments, descanting on their properties, doses, virtues, vices, &c. &c. till the inexperienced is completely bewildered as to the choice of so many remedies for one disease! Thus the third commentary of the fifth part of Dr. B.'s work presents us, under 21 heads, with a most delicious bills of fare, in the treatment of insanity; the very sight of which might go far to cure a madman--or make a sane man mad.

"Abstraction of blood, General and Topical; Dry-Cupping; Refrigeration; Gyration and Swinging; Sleep; Narcotics; Blistering; Setons and Issues; Artificial Eruptions; Bathing; Purging; Vomiting; Nausea; Salivation; Digitalis; Prussic Acid; Camphor; Spirit of Turpentine; Tonics; Tobacco; Diet." xvi.

We do not quote this bill of fare with any intention of reflecting on Dr. Burrows. Though the plan may appear less scientific, it may perhaps be more useful than that adopted on the continent.

Dr. B. remounts, of course, to the cure of King Proteus's daughter, by means of PURGATION—a remedy which has not lost in reputation or repetition since that period. Our author wisely advises us to make inquiry into the cause, nature, and seat of the malady, before we begin our methodus medendi—and if we cannot discover these, to wait a few days, where no symptom threatens, keeping the patient separate and quiet—and merely attending to the bowels. Dr. B. thinks that "the pathological division of insanity into the different *stages*, has done more to advance the treatment of the malady, than even the clinical experience of the ancients, or the *morbid discoveries* of modern anatomists."

"The conviction, however, has at length arrived, that insanity is a purely corporeal disease, and, like other corporeal diseases, is amenable to medical skill.

"In every case of insanity there is a diseased action going on, and each demands a separate examination: the features may be there, but be as varied as the expression of the human countenance. Hence none but general principles can be laid down, nor is any systematic treatment admissible." 577.

Dr. B. further observes, that the several stages which insanity pursues in its course, "testify that the brain, the organ of the mind, assumes different morbid conditions—first functional, and then structural—functional in the first three stages—structural or organic in the last." This pathological view is to be our guide in therapeutics.

"In the *incipient stage*, there is evidence of great vascular excitation and cerebral irritation, and this stage must be met by a correspondent treatment. Here are indicated repeated topical abstractions of blood from the head or contiguous to it, shaving the head and refrigeration, so long as there is preternatural heat of the scalp, cautious general blood-letting, even in the plethoric and robust, very moderate in the delicate, though young, purging, vomiting after the vessels of the head are unloaded and the bowels evacuated, nauseating doses of tartarized antimony to moderate the circulation and excessive violence, the digitalis in gradually augmenting doses, till the pulse intimates reducing the dose, saline draughts, and moderate diet.

"In the *active* or *confirmed stage*, the fury and violence of mania, or the despair of melancholia, with their concomitant mental delusions, may persist, yet the symptoms of physical excitation attending the incipient stage subside or intermit, and occasionally only return.

"When the symptoms of excitation recur, they must be treated as in the first instance, except that neither depletion by local or general bleeding, nor by any evacuants, should be so active or copious. The system will not in this stage bear them so well; on the contrary, light tonics and the shower-bath are of great use, even when moderate topical bleeding and purging are indicated; and when the exacerbation of a paroxysm ceases, more powerful tonics, as chalybeates, cinchona, cold-bathing, and a better diet, are admissible. It should also be observed, that in melancholia the class of remedies which are designated anti-nervines, are useful adjuvants.

"In the *convalescent stage*, if symptoms still denote cerebral congestion, gastric irritation or uneasiness, or intestinal irregularities, they should be attended to until they are removed. In this stage, moral treatment besides is especially indicated." 581.

We have now to glance at some of the principal items in the therapeutic catalogue.

1. *General Bleeding.*—This is a measure which has been largely employed, up to the present period. We agree with Dr. B. in doubting its efficacy, except in very restricted cases. Indeed we have no doubt that copious abstractions of blood are generally fraught with mischief.

"Following example rather than experience, I tried depletion by blood-letting for several years; but discovering my error, I became more cautious; and, I believe, that I have scarcely ordered venesection in six cases of simple mania or melancholia in as many years. My conclusion is, that since I changed my practice, more have recovered, and certainly the cases have been less tedious and intractable." 583.

2. *Local Bleeding.*—This is far more eligible. The primary symptoms, both in mania and melancholia, indicate increased activity in the circulation of the brain.

"The partial pains, tension, or throbbing in the head, extraordinary heat of the scalp, flushed face, blood-shot or glistening eyes, and general confusion of ideas, mark cerebral determination or congestion." 589.

Dr. B. does not recollect a single exception to the utility of local depletion, in cases of recent insanity. Cupping or leeches are the modes to be employed—and our author prefers "cupping on the occiput," to all other modes. Leeches are the best substitute, where there is a horror of cupping. The quantity of blood to be abstracted, and the repetition of the operation, must be left to the judgment of the practitioner.

"In cases of nymphomania, all the distressing symptoms whence this affection derives its name have been removed by the application of leeches to the vulva. In like manner, improvement of the mental faculties, dependent on menstrual obstruction, follows cupping on the sacrum. Sympathetic delirium from an affection of the liver, has subsided by local abstraction of blood from the hepatic region." 592.

Dr. B. has found sensible advantage from dry cupping, in cases where emaciation and debility positively forbade the detraction of blood.

3. *Refrigeration.*—Shaving the head, and keeping it covered with refrigerating evaporating lotions, are universally admitted to be most important measures. They almost invariably produce a calming and even soporific effect, in violent mania. Equal parts of spirit, vinegar, and water, form a very good evaporating lotion.

4. *Gyration and Swinging.*—These were strongly recommended by Darwin, Cox, Hallaran, Horn, and others. But some fatal accidents having taken place, the employment of these machines is far from general.

"It is described as seldom failing to produce copious evacuations in the most obstinate cases, provided that, on increasing the velocity of the swing, the motion be suddenly reversed every six or eight minutes, pausing occasionally, and stopping its circulation suddenly: the consequence is, an instant discharge of the contents of the stomach, bowels, and bladder, in quick succession. Should the stomach only be acted upon, a purge should be afterwards given." 601.

Dr. B. has, with many others, been deterred from introducing it into his asylum, on account of the popular prejudice engendered by the Parliamentary Committee of 1815-16.

5. *Sleep.*—Dr. B. thinks there is commonly by far too great a solicitude among practitioners to procure sleep for the insane.

"A maniac awoke from sleep artificially obtained, is a giant refreshed. New activity is imparted to the sensorium, and his muscular powers are recruited. If he have lost by it one hallucination, another assumes its place, more wild, perhaps, and extravagant than the former, and his waking dreams are the more vivid; hence his violence and raving are increased, and the power of continuing them prolonged." 607.

In the incipient stages of insanity, there is too much excitement—in the confirmed and incurable, too little, though sometimes accompanied with great irritability. Whatever diminishes the excitement, in the former case, as local depletion, cold, &c. will induce sleep. In the latter case, the opposite plan, under judicious inspection, may be often serviceable in procuring repose.

6. *Narcotics.*—These remedies have produced great discussion among physicians.

"Maniacs will generally bear large quantities of opium and other sedatives better than they will support remedies which weaken the vital powers. But opium, when the excitation is great in a full and strong habit aggravates; when the excitation is moderated by previous depletion, or the habit is reduced by long continued mania, stimulants, like opium, wine, porter, &c. tranquillize and prove soporifics." 610.

In the early stage, the vessels of the brain should, of course, be unloaded before narcotics be ventured on. When given, they should be in large doses, or none at all.

"I have never ventured beyond five grains of purified opium as the first dose. In those cases where I have deemed an anodyne admissible, I generally begin with three grains, and repeat one every two or three hours. I have never in this way exceeded twelve grains; and if sleep has not then followed, I have desisted." 613.

On the effects of hyosciamus niger, blistering, setons, and tartar emetic frictions, we need not dwell. Dr. B. appears to have been greatly disappointed in the expectations he had formed of the latter remedy, in consequence of the representations of Jenner and others. We must always be prepared for disappointments when the favourite nostrum of a medical writer is submitted to the test of experience by others.

7. *Bathing.*—This is a subject which has given rise to innumerable discussions in ancient as well as in modern times. The following are Dr. B.'s opinions respecting cold and hot baths, together with their modus agendi.

"The effect of general bathing, whether warm or cold, is imitative of the process of fever, which, as I have shown, will suspend the maniacal action, sometimes as long only as that lasts, and sometimes accomplish the perfect restoration of the intellectual faculties. Fever gives an impetus to the circulation and distributes the blood through the encephalon with an activity that imparts new energies to the brain.

"Warm bathing immediately produces accelerated circulation; cold bathing mediately, by reaction. Hence, both are perturbators, and eventually may equallize the circulation, which, perhaps, in every case of insanity is, in one way or the other, disturbed. Consequently, provided the necessary precaution of evacuation be adopted in the plethoric, or those with a manifest determination of blood to the head, either warm or cold bathing may prove equally beneficial. In using the warm bath, the conjoint application of cold to the head may prevent the ill effects of determination, even when evacuation had not been premised; but the safer practice in such cases is, to prepare for its use by local bleeding and proper alvine dejections." 628.

8. *Purgation.*—Black hellebore is the most ancient of all purgative substances, and has been celebrated in the cure of insanity, especially of melancholia, for 2000 years. So late as the days of Thomas Willis, twenty grains of calomel, the same of extract of black hellebore, and six grains of extract of jalap, were given for one dose, in insanity.

Drastic purgatives are sometimes necessary in the beginning of the disease, not only to overcome the torpidity of the bowels, but to clear away accumulations from the colon and rectum. When the evacuations have become natural, the bowels should not be irritated by powerful cathartics, but regulated, if possible, by diet, or by mild laxatives. There is a common but dangerous error prevailing, that the bowels of lunatics are peculiarly difficult to be acted on. This has led to very bad practice.

9. *Vomiting.*—Of all measures for the cure of insanity, this is the most generally and strongly recommended.

"Evacuation, says the elder Monro, is the best cure, and vomiting preferable to all others; and if not carried beyond the patient's strength, nor crowded too fast upon him, his health of body will visibly improve so long as vomits are continued. The prodigious quantity of phlegm which accumulates, he observes, is not otherwise to be got rid of; and he adds, that purges do not operate so well till after vomits. Hallaran, however, advises, that purging should precede vomiting." 641.

Dr. B. conceives, and we believe justly, that the beneficial action of vomits in insanity, is not to be attributed simply to their evacuating properties, but rather to their well-known effects on the circulation generally. The following declaration of our author is not very consolatory in reference to emetics.

"Influenced, however, by the strenuous recommendations of emetics for the cure of insanity, I gave them a fair trial; and in several cases relied upon their operation together only with purging. I used in turn every substance in the materia medica possessing emetic properties, and marked with attention the effect of each; but I must conscientiously declare, that, after several years' perseverance, my confidence in emetics alone in cases of insanity has been entirely dissipated." 641.

Still Dr. B. has recourse to emetics occasionally, but only as in other diseases—"to free the stomcah from troublesome ingesta, accumulated phlegm, or morbid bile."

"Doses of emetic tartar at such intervals as will keep up the nausea, rarely fail to reduce the most stubborn to subjection. Sleep, also, which in these cases is so desirable, will sometimes occur while in this state. This plan should be continued so long as it is positively useful, and no longer. I have known it pursued for a fortnight, and the hallucinations by degrees dispersed, or so weakened that the cure has been quickly accomplished." 643.

10. *Salivation.*—Spontaneous ptyalism is a phenomenon often attendant on insanity, and probably led to the employment of mercurial salivation in this disease. Dr. B. has made many attempts to cure insanity by mercurial ptyalism, "yet he never succeeded but in one case to restore the mental functions by it." This was a case of melancholia.

11. *Digitalis.*—This appears to be the most favourite remedy in mental derangement at present.

"I have never carried the dose beyond fifty drops of the tincture of digitalis of the London Pharmacopœia. Even in that quantity, by gradual increment, I have seen effects produced that have alarmed me for the safety of my patient; and therefore, if it has not answered in that dose, I have desisted from carrying it further, or suspended it altogether.

"Besides premising depletion, and purgation with calomel, Dr. Hallaran advises mercury to be given internally, so as to produce moderate salivation, as preparatory to the exhibition of the digitalis.

"Without any of the enthusiastic admiration and confidence in the virtue of the foxglove as an antimaniacal remedy which this respectable physician professes, I perfectly concur with him in considering it as having a very powerful influence, when properly administered, in all stages of insanity accompanied with great vascular excitement and a rapid pulse.

"I believe, also, that if the general rule he lays down, of previously depleting, and evacuating the bowels by calomel purges, be adhered to, the operation of digitalis will be found more uniform, not only in insanity, but in many active diseases where it now often proves ineffectual." 654.

The other medicinal remedies in the catalogue need not detain us any longer, and we have now, we hope, given a pretty full, though very general view of Dr. B.'s work. It is not one of those which are so diluted with words, that the valuable matter may be condensed into a nutshell. It is really a work containing an immense collection of important practical information from various sources, digested and commented on, by a man of sound judgment, accurate observation, and extensive experience. This may not appear a very high panegyric, but it is one which, we apprehend, will recommend the book more effectually to the attention of our readers, than whole pages of fulsome adulation.

Medical and Philosophical Intelligence.

Extra-Uterine Pregnancy.—Augustine M., ætat. 22, of a strong and plethoric constitution, had, about a year before her admission, miscarried in the seventh month of gestation. Since that time she had enjoyed pretty good health, and become pregnant for a second time. In the fourth month she began to complain of pain in the loins, and general debility, which apparently slight symptoms had existed for no more than two days, when, on the morning of the 15th of October, she awoke with a very violent pain over the whole abdomen; she was immediately brought to the Hospital Saint Antoine, and placed under the care of M. Rayer. Her countenance was pale, and expressive of the greatest anxiety; the lips were livid; the tongue moist; the abdomen swollen, and very tender on pressure, especially at the sides. The os uteri was neither painful nor dilated; the uterus was somewhat enlarged and tender; the pulse was scarcely to be felt; the extremities were cold, and the patient had frequent attacks of syncope. In the afternoon of the same day, the symptoms still increased in violence, and in the evening she expired, apparently with all the signs of internal hemorrhage.

On examination of the body, nearly two pints of fluid blood were found extravasated in the abdominal cavity, and a triangular coagulum of considerable size, extending from the small pelvis up to the umbilical region, was found covering the lower half of the abdominal viscera, and, on a closer inspection, appeared to originate from the uterus, by means of a thick pedicle. This coagulum having been carefully removed, a fœtus, five inches in length, was discovered in the left iliac region. The uterus was enlarged, and exhibited two tumours, separated by a longitudinal incision; that of the right side was the largest, and ruptured on its upper portion; between the edges of this rupture, the coagulum and umbilical cord were inserted. The neck of the uterus was about an inch in length, and slightly dilated by a gelatinous matter; a probe being introduced from below upwards, entered the left portion of the uterus, which, being opened, was seen lined with the membrana decidua. This having been removed, the opening of the left fallopian tube was readily found, but not the slightest trace of the right tube, or of any communication with the right tumour, could be discovered. It was perfectly separated from the left half of the uterus by means of a septum, of about an inch in diameter; the tumour itself was eleven inches in its transverse, three inches in its vertical, and one inch and a half in its antero-posterior diameter; on being opened by a crucial incision, it was found to contain the fœtal membranes and the placenta, which were somewhat protruded towards the rupture. The left fallopian tube was healthy, but that of the right side passed towards the lower portion of the tumour on the right side of the uterus, and was totally obliterated. It appears, then, that the fœtus was developed in a morbid cavity, formed in the substance of the uterus, having no communication with its cavity, and that the case belongs to those of interstitial extra-uterine pregnancy, which was first described by Maurideau, Schemit, and Albert.—*Journal Hebdomad.*

Suppuration of the Ovaries and Fallopian Tubes.—Marie Dushuit, thirty-seven years old, was admitted into this hospital on the 2d of September. She had borne three children, had always regularly menstruated, and, till the last four or five months, enjoyed good health. From this period she began to be affected with costiveness, accompanied by violent pain in the right side of the belly, and numbness of the right thigh. Injections and aperients generally relieved these symptoms, which, if left to themselves, ended in nausea and vomiting. In August, the pain which had hitherto been confined to the right side, began to be felt in the left iliac region, where a tumour was observed, the increase of which was attended by numbness and shooting pain of the left thigh. On her admission into the hospital, she was found in the following state: the tumour, in the left iliac region, was extremely painful, and appeared to be very deep-seated; it raised the integuments for about an inch above the rest of the abdomen, and could be covered by the hand; the strength of the left leg was much impaired; its heat and sensibility were natural. The patient was costive, and vomited almost every thing, very soon after ingestion: the whole abdomen was very tense and tender. Under the repeated application of leeches, and the use of emollient poultices and mucilaginous potions, no alteration ensued. During the menstruation, which, on the 6th of September, appeared in due time and quantity, the pain and sickness somewhat subsided, but recurred after the evacuation had ceased. On the 2d of October, the patient having hitherto suffered much from constant costiveness, colic pains, and vomiting, was attacked with profuse diarrhœa, and violent pains in the belly, during which the tumour suddenly collapsed. Fifteen leeches were applied to the anus, and opium was given internally, but the diarrhœa continued; the stools were mixed with blood, the abdomen was tense, very tender, and tympanitic; the patient was very restless and feverish, with a small pulse, and cold extremities, and, in spite of the administration of stimulants, expired on the 9th of October. On examination, the brain and thoracic viscera were found healthy; the liver was firmly adherent to the peritoneum, which was injected, and contained a sero-purulent effusion; the intestines were united by false membranes, which, in the left iliac region, exhibited a very considerable firmness and vascularity. On the left side of the uterus a large tumour was observed, which, on a closer examination, was found to be an enormous abscess communicating with the fallopian tube, which was, for the most part, much dilated, inflamed, and in a state of suppuration. At the bottom of this abscess, the ovary was found in an enlarged state, and containing some purulent matter. The abscess communicated with the rectum by a circular perforation, about the fourth part of an inch in diameter. On the right side, the fallopian tube was also found dilated and inflamed, without, however, leading into an abscess; the ovary was of the size of a hen's egg, and filled with pus. The bladder and uterus were healthy; the mucous membrane of the large intestines was ulcerated in many places.—*La Charité.* —*Lancet.*

Connexion between Monstrosity and Deficient Development of Parts of the Nervous System. By Professor Tiedemann.—Professor Tiedemann has published an interesting series of observations on the connexion between deficient development of the nervous system and of the extremities in monsters. He gives examples of defective formation of the spinal cord with deficiency of limbs; and, on the other hand, of excessive formation of the brain and nerves with supernumerary organs. These positions are illustrated by dissections and figures, some original, and others copied from writers of authority.

From the facts related in this and in a preceding paper, Professor Tiedemann thinks that it is decidedly established that there is a direct relation between the constitution of the nervous system and the construction of the other parts of the body. With the absence of any nerve there is connected the absence of the organ to which the nerve belongs, and with the imperfect formation of any part of the nervous system there is associated the imperfect development of the organs which it supplies. He is farther convinced, that in all monsters with excess of formation, whether it consists in single parts, or is extended to the whole body; or whether the doubling of parts is of the upper or under portion or to one side, the distributions of the nervous system correspond. The same takes place where two organs are blended into one. Professor Tiedemann, having assumed these as established facts, next proceeds to inquire whether the defective formation of the organs is the consequence of the want of the nerves; or whether the nerves are not formed, because the organs are wanting; and conversely, whether the formation of part in excess is owing to excessive development of the nervous system; or whether the nervous system is in excess because there are supernumerary organs? As the result of a very ingenious and profound inquiry, Professor Tiedemann concludes that the nervous system, as the first existing apparatus, regulates the formation and development of the embryo, and determines the peculiar form and disposition of the rest of the organs.—*Zeitschrift für Physiologie.*

Double Uterus and Double Impregnation. By Dr. Geiss.—A woman of middle stature and robust constitution, had been in labour two days. When Dr. Geiss saw her, he observed that the pains were confined to the right side of the abdomen, where the uterus extended as high as the thorax, while on the left it only reached the umbilicus. The external organs of generation and the orifice of the uterus were perfectly well formed, and on examination the shoulder of the fœtus covered by the membranes could readily be detected; the operation of turning was performed, and the woman safely delivered of a living child. The right side of the abdomen immediately diminished in size, while the left underwent no change. After the lapse of an hour, there was a recurrence of the pain, and on introducing the hand, Dr. Geiss ascertained that there existed at the side of the orifice of the uterus, and quite distinct from it, a circular opening, through which the membranes of another child protruded. On another examination, he distinctly recognised the abdomen of the second child, presenting at the orifice just mentioned; turning was again performed, and the child delivered apparently still born; but, by the employment of proper means, it was quickly resuscitated. As the detachment of the placenta did not take place, he introduced his hand into the uterus, and thus ascertained beyond doubt that the organ was double. The placenta of the first child was first detached, and the uterus immediately contracted vigorously. The left placenta afterwards came away, but the uterus of that side did not contract so strongly, and the patient lost a considerable quantity of blood. Two months afterwards she had entirely recovered, and both children were alive and well. Two years previously she had been delivered of a single child, after a very tedious labour.—*Rust's Magazine.*

Hæmorrhage arising from ulceration of an Uterine vessel, and terminating fatally in the space of three hours. By Dr. Leclerq.—The patient, æt. 28, of weak constitution, had for six years felt dull pains in the abdomen, a little above the left inguinal region, which she attributed to a blow received on this part by falling against the corner of a table. During the period above mentioned, she suffered occasionally from slight indisposition, so trifling, however, as scarcely to require medical aid, and for which she generally had a few leeches applied to the thighs. Four years ago she was delivered of a well-formed child, and from this period she imagined that she had an ulcer of the womb; MM. Dubois and Boyer were consulted, but nothing was discovered to justify her apprehensions: her fears had nearly vanished, when about two months since, there was a recurrence of the abdominal pains already mentioned; fifteen days afterwards, the catamenia, which had been a little retarded, made their appearance in such abundance and continued so long, that she believed she had had an abortion. From this time till the next menstrual period, she complained more frequently of the pains in her pelvis, and expressed to her intimate friends, her apprehensions of the consequences. Notwithstanding, her health did not appear to be in any degree impaired, her breasts and abdomen seemed to enlarge, which, together with another delay of three or four days in the appearance of the menses, gave rise to a presumption that she was pregnant. Such was her condition, when, on the 9th of August, while carrying a burden disproportioned to her strength, she felt an acute but momentary pain in the pelvis; the day following, she rose early and ate her breakfast about 9 or 10 o'clock without making any complaint; an hour afterwards, she was suddenly attacked with syncope, which was of long duration; immediately afterwards, she was seized with violent spasms of the intestines, vomiting, &c. which alternated with the syncopes, and terminated her existence in the space of three hours.

On dissection, a large quantity of extravasated blood was found in the abdomen, the source of which, after a protracted search, was traced to a circular ulceration, about a line in diameter, on the surface of a tumour developed in the folds of the anterior wing of the left broad ligament; this tumour was about twice the size of the ovary, it contained fibrinous coagula, some of which were whitish and others of a dark-red colour; a large artery opened into this cavity, which was formed in part by the peritoneum and by the cellular tissue which enters into the composition of the broad ligament.—*Archives Générales de Médecine.*

Gangrenous Laryngitis and Bronchitis.—A labourer, 17 years old, had for some time been affected with a very troublesome cough, when, after an excess in drinking, he was taken with shivering, fever, general debility, violent headach, sore throat, and diarrhœa. Some leeches were applied to the throat, and, on the 5th of April, the patient was admitted at the Hôtel-Dieu. At this period the heat was moderate, the skin dry, the pulse very small and frequent, the abdomen somewhat tender, the tongue dry and red, the mouth and nose filled with mucus, the breath very fetid, the throat very painful, and deglutition difficult. The tonsils and soft palate were covered with a thick, white, grayish mass, the voice was hoarse, respiration difficult and stertorous, and a thick mucus was expectorated; eight leeches were applied to the epigastrium. On the 6th, the smell of the breath was truly gangrenous; the countenance was very pale, and expressive of anxiety; the pulse could not be felt; and the voice was hardly audible. Thirty leeches to the throat, and sinapisms to both arms, were ordered; but the patient died on the same morning. On examination, the whole cavity of the mouth was of a livid colour, and lined with a thick albuminous mass; the tonsils were swollen, and of a dark-red colour. The whole extent of the larynx, trachea, and the larger bronchial divisions, were covered by a false membrane of a white colour, and gradually decreasing in thickness. The upper part of the right lung was hepatized, and very firm; the left lung was healthy. The mucous membrane of the stomach was red, and, on the great curvature, beset with granulations.—*La Clinique.*

Colchicum Autumnale.—Dr. Fiévée, who has had great experience of this article in gout and rheumatism, recommends the following mode of administering it. Take of the tincture of the bulb of the plant, half an ounce, tincture of the seeds, two drachms, sirup of lemons, four ounces, mix, and give a spoonful in a cup of the infusion of balm.

This mixture, given in the space of twenty-four hours, produces at the expiration of eighteen hours, several evacuations. The most violent arthritic engorgement soon disappears, and the patient is suddenly relieved. During the administration of the remedy, it is necessary to abstain from food, and to watch attentively its effects upon the stomach and system generally. M. Fiévée states, that in some instances, the gout disappears to return no more; in others it has a tendency to assume a chronic form.—*Gazette de Santé.*

Central Point of the Nervous System.—M. Flourens recently presented to the Academy of Sciences in Paris a Memoir entitled "Experiments on the Semicircular Canals of the Ear in Birds."

The author began by adverting to two Memoirs, not presented to the Academy, but published in the Annales des Sciences Naturelles, for January and February last. The object of the first is to determine with precision the limits of the central and vital point of the nervous system.

It results from his experiments that this point commences at the origin of the eighth pair of nerves, and extends over the space of a few lines only. By cutting the cerebellum below this point, its vitality ceases, yet the medulla spinalis is unaffected. Cut the spinal marrow below the point in question, and it dies. A point then exists in the nervous centres on which depends the life of all the other parts. This point is between the spinal marrow and cerebellum, the very centre of the nervous centres, (*au centre même des centres nerveux.*) It suffices that a part be united to this point to preserve its vitality; its death is the inevitable consequence of disunion.

Reunion of the Ends of different Nerves.—In the second Memoir, M. Flourens, after having repeated the experiments of Fontana, of Montana, of Cruickshank, and of others, on the reunion of the divided extremities of the *same* nerve; sought to determine the effects resulting from the union of the ends of different nerves. He therefore placed them in contact, and so kept them. In every instance the reunion took place. In some of the cases the return of the function was complete; in others it failed. In all, the transmission of irritations by the united nerves was perfect.

Effects of the Section of the Semicircular Canal of the Ear in Birds.—This is the immediate object of the Memoir now read.

The semicircular canals in birds are two vertical and one horizontal, which, with the vestibule and cochlea, form what is denominated the labyrinth, or internal ear.

In pigeons, the greater of these canals is the superior. It is vertical, and obliquely directed from behind forward. The middle is horizontal. The inferior is vertical, and directed from before; backward it crosses the horizontal.

M. Flourens, having successively made the section of these canals without producing the death of the animals, observed the following effects, which continued in many of them for nearly the space of twelve months.

1. The section of the *horizontal* canal of *both sides* is uniformly followed by a violent horizontal movement of the head. The section of the vertical canal, whether superior or inferior, of both sides, is followed by a violent vertical movement of the head. Finally, the section of both the horizontal and vertical canals produced both the vertical and horizontal motion of the head.

2. The section of a canal on *one side* only, whatever be the canal cut, is accompanied by the motion of the head in a much smaller degree than when both sides are cut.

3. The section does not destroy life, but the effects above mentioned remain during the life of the animal.

4. The principle of this effect resides in the membranous lining and nervous expansion of the canals.

It is, says M. Flourens, an extraordinary fact that parts so small and of such delicate structure, should exercise so powerful an action on the animal economy; and it is equally so that parts, whose functions appear to be specially confined to the purposes of hearing, should have so marked an effect on the movements above described; and, finally, that each of the parts determines a motion in conformity with its own vertical or horizontal position. Thus, the horizontal section produces a horizontal motion; the section of the vertical is followed by the vertical motion.—*Lond. Med. and Phys. Journal.*

Lithontripteur.—Mr. Zanabi Pecchioli, an eminent young surgeon, charged by the Grand Duke of Tuscany to observe the actual state of surgery in various countries, has made a great improvement on, or rather he has added a new and important principle to, the lithontripic instruments invented by Messrs. Leroy d'Etoile, Civiale, Amusat, Hourteloupe, &c. &c. We have had a recent opportunity of examining Mr. Pecchioli's instrument, and seeing him work it on different calculi—not, of course, in the living body. We would say that its superiority over the instruments of the gentlemen above-named, is threefold. In the first place, it combines the principles of each of the others, the drills and other parts of their machinery being rendered completely available in Mr. P.'s apparatus. In the second place, the spring, or ressort, by which the drill or perforator is made to bear on the calculus, and which cannot, in the other instruments, be made to vary in force, is superseded by the construction of the pulley, which enables the operator to modify, vary, augment, or diminish, at pleasure, the force used—and that by his own hand. This we conceive to be a very important improvement. But the third modification is the most important of all. The perforator or drill, in Mr. P.'s lithontripteur, can, at any period of the operation, be converted into a kind of trephine, varying in the diameter of its circular movements from the smallest circle up to one of 18 lines in diameter, at the operator's will—and thus becoming capable of grinding down the calculus by a series of girations equal in extent to the grasp of the pincers or tenacula, instead of boring holes, and shifting the instrument for each perforation. By this operation, a considerable portion of stone may be ground down by a single sitting; and the danger of large and irregular fragments being scattered about in the bladder, when the calculus is broken after many perforations, according to the methods of Leroy d'Etoile and Civiale, is avoided.

Sir Astley Cooper, Mr. Travers, Mr. Key, and many other distinguished surgeons, have compared Mr. Pecchioli's apparatus with that of M. Civiale's; and, without vouching for the general success of the lithontriptic process, they have no hesitation in acknowledging the great ingenuity of Mr. P.'s instruments.—*Med. Ch. Rev.*

Delivery effected by Incision of the Perineum. By Dr. Kroon.—This gentleman was called to a woman, 25 years of age, who had been some time in labour; on examination, an obstacle was found in the perineum, which, in consequence of a wound, and ulceration, the cicatrices of which still remained, was considerably enlarged. The labia were so much changed that they had the appearance of an encysted tumour; at their union in the perineum they were deformed by a band half an inch in thickness; the perineum itself was of an irregular form, and the orifice of the vagina was not larger than before the period of puberty. In the hope that nature would ultimately triumph over every obstacle, Dr. Kroon directed some emollient applications to be made; but observing that the labour did not advance, and that the head had taken another direction, and pressed upon the rectum, he became apprehensive lest a rupture of the intervaginal septum should take place, and delivery be effected per anum. Several physicians were called in consultation, and it was determined, in consequence, to divide the perinael band, and thus to remove the only obstacle to delivery. The operation was performed; the fœtus was dead, and delivered by the forceps; the edges of the wound were brought together by means of a suture; some slight inflammation supervened, but was readily removed, and after the lapse of a few weeks the patient had entirely recovered.—*Jour. Univ. des Sciences Medicales.*

Mr. Mantel's Report of Midwifery.—In the midwifery practice of a healthy country town, the number of cases being 2510; there were 4 arm presentations, or 1 in 600; 8 in which turning was required, or 1 in 300; 6 in which the forceps were employed, or 1 in 400; 3 cases of embryotomy, or 1 in 800; 6 cases of puerperal convulsions, or 1 in 400; 2 cases were fatal.—*Med. Gaz.*

New Publications.

Catéthérisme Rectiligne, ou Nouvelle Manière de Pratiquer cette Opération chez l'Homme, suivi d'un Nouveau Moyén de Réunir les Déchirures de la Vulve et du Périnée, produites par les Accouchmens; avec Figures. Par Et. Moulin, D. M. P.

The Anatomy and Physiology of the Nervous System. By Valentine Flood, A.M.M.B., Member of the Royal College of Surgeons in Ireland, and one of the Demonstrators in the Richmond School of Anatomy. 12mo. pp. 315. Dublin, 1828.

An Essay on the Mechanism of Parturition, from the German of C. F. Naegelè, Professor of Midwifery at Heidelberg. By Edward Rigby, M. D. 12mo. pp. 166.

Literary Intelligence.

Dr. Epps, author of the Internal Evidences of Christianity, deduced from Phrenology, and Lecturer on Materia Medica and Chemistry, proposes to publish (by request) three Phrenological Essays:—

I. On the faculty of VENERATION—showing that many forms of religious worship adopted by different sects of professing Christians, excite *false* devotion, by acting on this faculty through the feelings, and not through the intellectual faculties.

II. On MORALITY—pointing out the inferior origin of the greater portion of the morality of the present day, and that the facts of Christianity present the only lasting motives to moral actions.

III. On the best means of attaining HAPPINESS—demonstrating the sources of our misery, the sources of our happiness, and that our happiness and misery may arise from one and the same source, according to the improper or proper guidance of all our faculties.

A slight sketch of the science of Phrenology will form the preface to the work, in order to enable the reader to comprehend more fully the principles laid down.

THE

MONTHLY

JOURNAL OF FOREIGN MEDICINE.

MAY, 1829.

From the Edinburgh Medical and Surgical Journal.

CLINICAL OBSERVATIONS ON THE PRACTICE OF BLEEDING IN THE COLD STAGE OF INTERMITTENT FEVER. By WILLIAM STOKES, M.D. Licentiate of the King and Queen's College of Physicians, Physician to the Meath Hospital and County of Dublin Infirmary.

Since the publication of Dr. Mackintosh's papers on intermittent, I have had a strong desire to put to the test of experience the utility of the practice of bleeding in the cold stage of ague. Soon after the first appearance of these deservedly celebrated dissertations, my colleague, Dr. Graves, bled in the cold stage with good effect in a few cases, for the first time, I believe, in this country. From having witnessed these cases, I confess I became an advocate for the practice, and the success which followed my own trials at this time confirmed me in my favourable opinion of it. But still our cases were too few, and I was not wholly satisfied as to the constant utility of the new method of treatment. An opportunity offered for investigating the question in the spring of the present year.

As the epidemic of continued fever which has lately visited Dublin declined, cases of intermittent became frequent. In various situations about Dublin, particularly on the northern side, ague raged with an unknown severity. In Swords, a village seven miles to the north of Dublin, and in the vicinity of the sea, it was during the spring and summer completely endemic. In various situations in its neighbourhood, particularly those in the vicinity of salt marshes, numbers of individuals became affected with the disease. Many of the afflicted were received into the wards of the Meath Hospital, where I began to investigate the utility of the new practice on an extensive scale. Anxious to know its effect, I treated the patients at first only by bleeding in the cold stage, and the use of saline purgatives when necessary, but soon found that without the use of bark I could not succeed in eradicating the disease. Further, I observed that cases occurred where the practice was obviously followed by effects for which I was not prepared. I then determined to try cautiously in each case the effect of bleeding, and, if I found that the patient was not advancing towards recovery, to resort at once to the use of bark.

The quantity of blood drawn in each instance averaged at fourteen ounces, and the operation was never performed until the rigour was well established. In most instances the patients were bled only once, but in some the operation was repeated more than twice.

In the following paper I give an impartial account of the result of my practice, leaving the reader to draw his own conclusions.

The local symptoms which occurred in the cases under my observation may be divided into two classes. *First,* those which occurred during the paroxysm. *Second,* those which continued during the intermission, but which were aggravated in the paroxysm, and were generally most severe in the cold stage. Among the first, the principal were, severe pain in the loins, great headach, violent cough, sensation of oppression, and soreness in the præcordial region, dyspnœa, accelerated and small pulse, nausea, epigastric tenderness, bilious vomiting. In the second class we may place cough with mucous expectoration, in a few cases headach, and in several hepatic and splenic enlargement.

Effect on the rigour.—A very common effect of venesection was to produce at first a momentary suspension of the rigour. This may be attributed to mental emotion. In some cases where the patient heard the order given for bleeding on the following day, the rigour did not appear. As soon as an ounce or two of blood had been drawn, the rigour used to re-appear, and continue until about twelve ounces were obtained; it then ceased, but frequently re-appeared as soon as the arm was tied up; and having continued for about five or ten minutes in a diminished degree, was gradually succeeded by the hot stage. In one instance a distinct interval occurred between the cessation of the rigour and the commencement of the hot stage.

In other cases the intensity only of the rigour was diminished, while its duration remained the same; while in some the only effect observed was the relief of the most violent local symptoms, such as the cough and headach. In a few instances the stages of the paroxysm appeared to be lengthened by the operation, which was the contrary of what we expected, while in others it appeared to have no perceptible effect on the rigour. In one case the rigour disappeared on the fourth pyrexial day after the bleeding, but the symptoms indicative of local congestion occurred at the usual time.

The effects, then, of venesection during the rigour were,—checking the rigour altogether; momentary suspension of the rigour; checking the rigour, after a certain quantity of blood was drawn; its return in a mild degree; diminution of its intensity, but not of its length; relief of the local symptoms alone; prolongation of the rigour without diminution of intensity; no apparent effect; disappearance of the rigour on the fourth pyrexial day after the operation, but persistence of the symptoms indicative of internal congestion.

Of these the third effect was by far the most common. The diminution of intensity, but not of length, was next in frequency. The other results were rare. In three instances *no apparent effect* was produced by the operation either on the intensity or duration of the rigour. In two it was prolonged without diminution of intensity. In one only did I observe the relief of the local symptoms alone. As to the cutting short of the rigour, I can only say that I have very seldom seen it. During the presence of the late epidemic, we had a few instances of it; but since I began to take the cases under my more particular observation, I have seen but four examples in which this remarkable effect was produced. The last of these effects was observed in one case only. The patient was admitted presenting symptoms of continued fever passing into intermittent. He experienced his first rigour on the day after his admission, or the fourth of his illness. The different stages of the paroxysm were very well marked. During the interval between this paroxysm and the succeeding one, which occurred two hours later on the following day, he remained in a state of some febrile excitement. Pulse 96; tonge furred; skin rather hot. He made no complaint, and appeared in excellent spirits. He was bled on the sixth day of his illness, and second of the appearance of the intermittent. The rigour was not checked, but shortened; the hot stage increased in length and severity; and the blood was sizy. The succeeding paroxysms were milder; but on the ninth day of his fever, and fifth of the intermittent, he became affected at the usual time with all the symptoms which used to occur in the rigour. He had cough, difficulty of breathing, oppression at the præcordia, nausea and headach. He had *no rigour* or lumbar pains. These symptoms continued for an hour, when he became very hot, and in this state continued until evening, when sweating came on. On the next day, however, the usual paroxysm recurred, and the disease continuing, he was ordered quinine, under the use of which the rigours speedily ceased, but his convalescence was extremely slow.

Effect on the hot and sweating stages.—In general, when the venesection in the cold stage had succeeded in checking the rigour, we found that the subsequent stages of the paroxysm were rendered milder. I have often observed that the hot fit was not at all well marked. Soon after the arm was tied up there used to appear a gentle warmth, which was imperceptibly succeeded by diaphoresis. I have seen this warmth and moisture of the surface come on even when a slight degree of rigour continued. But in other instances we found that a well marked and often severe hot fit succeeded the operation;—that this might continue even for a longer period than usual, and be characterized by a more than usual degree of intensity;—such a hot fit might be succeeded in some instances by a long-continued sweating stage, or, what was frequently the case, the hot fit would subside, and the patient had either no sweating stage that day, or did not perspire until night.

The effects of bleeding in the cold fit upon the subsequent stages were,—the hot stage being rendered milder; hot stage not distinct; sweating rapidly succeeding; increased severity of the hot fit; increased length of the hot fit; sweating stage rendered milder; non-appearance of the sweating stage; increased length and severity of the sweating stage; non-appearance of either hot or sweating stage: no apparent effect on either stage.

As to the comparative frequency of these very different effects, I may remark, that those cases in which the hot and sweating stages were rendered milder were the rarest. The most frequent of the above results was the last, namely, that no apparent effect was produced on the hot and sweating stages. The remaining effects occurred in a nearly equal proportion. In one case only did we observe that the rigour was not followed by the hot and sweating stages; and in three the hot stage appeared without the sweating. In one case only we observed a complete subsidence of febrile action to follow the bleeding. This apyrexial state continued for nearly an hour, during which the patient expressed himself at ease; his skin was cool, and all symptoms of fever had disappeared. The hot stage then came on, and was followed by sweating. I must here remark, that we did not observe any particular characters of the fever, any remarkable local symptom, nor any thing peculiar in the habits and idiosyncrasies of the patients, which could lead to an explanation of the discrepancies in the results above related.

Effect on Local Symptoms.—It was upon the local symptoms indicative of internal congestion, which occur with so much severity during the cold stage, that the best effects were produced by the detraction of blood at this period. One of the most constant of these was the pain in the lumbar regions, accompanied by great tenderness in these parts. These symptoms invariably yielded with great rapidity; and often before the operation was finished they totally disappeared.

The cough, dispnœa, and oppression about the præcordia, were next in frequency.

These, apparently indicative of a congested state of the lung, were speedily removed by venesection in the cold stage. A number of the patients who were thus affected laboured under a continued *bronchitis*, as indicated by cough and mucous expectoration during the intermission—the stethoscope also showing that mucous inflammation existed. Such patients suffered extremely during the cold stage from difficulty of breathing, and experienced great and sudden relief from the bleeding.

In one patient, on applying the stethoscope during the cold stage, I heard the sonorous râle with a degree of intensity which surprised me. Every portion of the lungs was thus affected. This man was bled in the cold stage, which checked the rigour for the time; and upon examining him again in the course of ten minutes, when the sweating stage was setting in, I found the respiratory murmur perfectly pure.

That diseases of the lungs should be a common consequence of intermittent is not to be wondered at, when we consider that this organ, one of the most delicate and extensive in the body, is at the same time supplied with the greatest quantity of blood. During the cold stage it is often severely congested, and, if not relieved by the detraction of blood, we cannot be surprised to find inflammation set up in it. How, I would ask, does the congestion in the cold stage of ague differ from that of pneumonia in the first degree? Some would answer that in the one case the congestion is passive, in the other active. But these are merely terms to which we cannot attach any definite idea; and if, for the sake of argument, we allow the difference, is it not highly probable upon the commencement of the hot stage, that the excited arterial action will produce inflammation of the pulmonary tissue? The condition of parts in both cases is very similar. In common pneumonia, the first symptom is often a severe rigour, followed by a hot stage, in which the inflammatory symptoms manifest themselves.

The effect of the bleeding on the state of the pulse was various. In general we found that during the rigour the pulse was quick and small, and in some instances irregular. In several cases a tendency to syncope was produced, accompanied with sinking of the pulse, but not its total extinction. This happened, however, in one instance. In another the pulse, which during the rigour was quick and irregular, was not affected as to its frequency, but became more regular. I regret that our observations on this subject were not more minute and general; but I think that the effect in the majority of cases was to diminish the frequency and irregularity of the pulse, and to increase its fulness. It is extremely difficult to ascertain the exact state of the pulse during the rigour from obvious reasons, and on this account our observations were in many instances very defective.

The nausea during the cold stage was a pretty general occurrence, and in a considerable number of cases used to terminate in copious bilious vomiting toward the close of the rigour. It was generally accompanied with tenderness of the epigastrium, and in some cases of the hypochondria, and even the whole abdomen. This tenderness was often extremely severe; in most cases it was removed by the venesection, and with it the nausea used also to disappear.

That this tenderness and nausea depend on the congested state of the stomach, liver, and spleen, is generally admitted; that this congestion often repeated will terminate in actual disease, cannot be denied. We observe this in almost every case of long-continued ague; and must conclude, that, although the patient experiences copious sweating during the time of reaction, still these alone are not sufficient to relieve the internal viscera, which thus become more and more diseased; something appears requisite to assist nature; and the bleeding in the cold stage seems to answer this indication on theoretical grounds, and, as we have seen, its utility is demonstrated by practical experience. As to the application of the remedy in question to the relief of the second class of symptoms, I regret that a sufficient number of observations has not been made to enable me to form any general conclusions. The cough and mucous expectoration were in most cases indicative of an inflammatory affection of the bronchial mucous membrane, and in some were connected with partial pneumonia. In the majority of cases, we had to direct our attention particularly to the cure of these diseases by the means usually employed; but in a few instances the pneumonia was certainly checked, if not wholly relieved, by the bleeding in the cold stage. I cannot say that I have observed this with respect to the *bronchitis*, which continued in those cases where the inflammation of the pulmonary tissue had been apparently checked.

As the great majority of the cases treated in the Meath Hospital were not of long standing, we found but few instances of splenic and hepatic enlargement. The cases in which these lesions occurred were of two kinds;—those in which the visceral enlargement was the consequence of long-continued intermittent, or of repeated attacks of the disease; and those in which it appeared as the consequence of a single attack, not lasting longer than four weeks.

Of the first of these cases we had but few examples. In one instance, where the patient had suffered several relapses, and in whom the spleen was so enormously enlarged as to reach almost to the crest of the left ilium, no effect whatever was produced, while in another the bleeding was followed by rapid diminution of the splenic tumour. The case is so remarkable that I mention its particulars.—An old man of an extremely cachectic appearance, and labouring under tertian ague of long standing, was admitted into the Meath Hospital in the beginning of the year 1827. He was dropsical, had diarrhœa and *bronchitis*, and presented a great enlargement of the spleen. From the debilitated state of this patient, I at first determined to try the effect of bark alone, and accordingly ordered two grains of the sulphate of quinine to be administered three times a-day. Upon this treatment he was continued for upwards of a week, but the disease did not appear to yield in the least. I then ordered a small bleeding in the cold stage, which was followed by the best effects. The strength of the patient during the intermission appeared improved, and the ensuing paroxysm was much less severe than usual. Encouraged by the practice, I repeated the venesection. From this time the paroxysm ceased, the patient rapidly recovered, and in the course of little more than a fortnight the splenic tumour had wholly disappeared.

This is not the only symptom in which a splenic tumour of long standing appeared to yield to the practice. The case of Donnellan is another instance of the same effect. I have often seen that attacks of intermittent were apparently cured by the exhibition of bark alone; but that in many cases the splenic tumour remained without any perceptible diminution. Such patients are very liable to relapse. If the diminution and ultimate removal of the splenic enlargement be found to frequently follow the practice of bleeding in the cold stage, it will form a powerful argument in its favour.

The effect just mentioned probably arises from the following causes:—*first*, the checking of the rigours, during which the spleen suffers enlargement; and, *secondly*, the direct depletion of the organ.

The latter mode may operate either by relieving the congested state of the spleen; by exciting the absorbent system; or by removing inflammatory action in the organ itself, which would tend to its hypertrophy, and to the continuance of the disease.

In the cases of the second order, namely, those in which the splenic tumour was formed during a single attack, not of greater duration than four weeks; the tumefaction rapidly subsided even in cases where the bleeding did not altogether remove the intermittent. To this observation, however, the case of Cath. Keogh forms an exception. In most of the cases of splenic tumour there was also evidence of enlargement of the liver, apparently from congestion. That this organ may be greatly enlarged by venous congestion is often seen in cases of disease of the right side of the heart. (Andral, *Clinique Medicale.*) When this state of the liver occurs in a slight degree, its detection is difficult; but in every instance where we observed it, its subsidence appeared to proceed *pari passu* with that of the spleen.

Having now described the effect of the practice on the paroxysms and on the local symptoms, I must next mention some very untoward circumstances which appeared to follow the bleeding in the cold stage. These were *the occurrence of new local inflammatory symptoms*, and the *supervention of a low irritative fever.*

The inflammatory affections observed were *gastritis; tonsillitis;* inflammation of the submaxillary gland; and *pneumonia.* Of these the first occurred in several instances, and was often severe. In those cases where it did occur, the intermittent was not checked by the bleeding in the cold stage. In the first case in which we observed it, namely, that of Conway, the intermittent was of three weeks' standing, and had been treated by two bleedings in the cold stage, which had no effect whatever in checking the disease. The patient became affected with violent symptoms of *gastritis*, which yielded to the application of a large number of leeches to the epigastrium. In the second case, that of Thechan, the intermittent was of thirteen days' standing of the tertian type. The patient was bled in the cold stage on the eleventh day, and upon the thirteenth day the symptoms of *gastritis* appeared. The rigour on this day was very trifling. The third instance of the supervention of gastric inflammation occurred in the case of Cath. Keogh, after she had been nearly four weeks labouring under quotidian fever. She was twice bled, and the intermittent, so far from being diminished, appeared increased in violence. The symptoms of *gastritis* supervened three days after the second bleeding.

These were the most remarkable instances of the occurrence of *gastritis* after bleeding in the cold stage. We observed it in other cases, but not with such well marked characters. To account for this result is difficult; but when we recollect the apparent connexion that exists between the gastric and intermittent forms of fever, we may suppose that on the interruption of the usual course of the intermittent by the bleeding, the disease in the system, *whatever that may be*, then settles on the organ most liable to be affected during the precursory fever of intermittent.

Were we to admit the doctrine of *depuratory fevers*, we might suppose that a certain morbific cause existed in the system, and that by the repeated paroxysms it was at length got rid of. Now, if such be the fact, it is plain that to interrupt an intermittent suddenly would favour the formation of other disease. On this point I shall quote from Frank.

"The name of depuratory fever is not a word devoid of meaning. Many cachexiæ, glandular engorgements, want of activity in the absorbent system, and a disposition to phthisis, diminish under the influence of a fever, which, by the different emunctories, expels the latent acrimony in the system."

In opposition to this view, it might be urged that in the cases where this gastric inflammation appears the intermittent is not interrupted. That it was not checked is certain; but still we may conceive, from the effect of the practice in other cases, that an impression of some kind was made upon it. Indeed, in the second case we observe that the gastric symptoms appeared on the next pyrexial day following that on which the bleeding was performed, and that on this day the rigour was very trifling. Here, then, we see an impression made on the intermittent, and at the same time the occurrence of gastric inflammation.

On this subject it is plain that nothing but conjecture can be offered. One conclusion, however, may be drawn, namely, that we must not be too sanguine in substituting the detraction of blood for the slower operation of nature. If it is proved by future experience that such effects often follow the practice, it will form a weighty argument against it.

In the case of Donnellan, the recurrence of the daily paroxysms were cut short by one bleeding, which was performed on the 8th of March. On the 10th, symptoms of inflammation of the submaxillary gland supervened. This terminated in abscess, which burst on the 13th; and on the 16th, the intermittent again made its appearance. On the 20th, he was again bled in the cold stage, which checked the disease a second time, and this was followed in a few days by severe *tonsillitis.*

I have next to mention a case where the patient died with symptoms of *pneumonia* and softening of the brain. This was the only instance where death occurred after the bleeding in the cold stage in our wards.

John Casey, aged 40, a labourer, was admitted on the 18th of July, suffering under a severe quotidian fever of four days' standing, which was preceded by symptoms of continued fever for a week. He complained of severe cough, which affected him during the apyrexial state, and in the rigour. On the following day he was bled to sixteen ounces in the rigour, the effect of which appeared to be a great increase of the severity of the paroxysm. The rigour continued for an hour after the operation, the hot stage for half an hour, and the sweating for three hours. Next day, however, the rigour did not appear; his pulse was regular; the cough trifling; and his appetite had returned. The disease appeared to be cut short completely.

On the 22d, he complained of cough at night, accompanied by sweating; his tongue was whitish. By percussion and the stethoscope no disease of the lungs could be detected.

24th.—Great debility since yesterday; pulse 88, soft, full, and vibrating; tongue white; perspired copiously this morning,—*Capiat Sulph. Quininæ gr. decem.*

25th.—Cough severe; other symptoms as yesterday; respiratory murmur in postero-inferior portion of right lung marked by the crepitating *râle.*

Omittatur Quinina. Venesectio ad uncias duodecim. Tart. Antim. semigranum omni hora. Hirud. duodecim lateri dextro.

26th.—Much relieved; has not coughed since the bleeding; *crepitus* greatly diminished, with return of the respiratory murmur.—*Vesicat. lateri.*

28th.—Dejection and great debility; extreme unwillingness to move or answer questions; tongue clean at the edges, furred in the centre.—*Extract. Hyoscyami grana sex.*—Beef Tea.

29th.—Considerably better; pulse 72; tongue clean.

30th July.—Same state as on the 28th. From this day he gradually became worse; the feet swelled; his cough returned with severity; his respiration was hurried; abdomen tympanitic. He became nearly insensible on the 5th of August; his eyes were fixed; skin cold and clammy; pulse small and weak. He frequently was observed to place his hand on the right side of his head. On the following day he was found paralytic in the left upper and lower extremities. He still, however, retained a slight power of motion; lower extremity much swollen; temperature diminished; speech inarticulate; respiration high and hurried; right sterno-mastoid acting strongly, left apparently paralyzed; no difference in the pupils, but the sight of the left eye appeared lost. He died on the 8th.

Dissection thirty-six hours after death.—But little emaciation; skin of a dirty yellow tint; œdema of left lower extremity continues; no appearance of putrefaction.

Head.—No increased quantity of blood on raising skull-cap; *dura mater* healthy; some serous effusion in arachnoid; *pia mater* vascular. The substance of brain in left hemisphere perfectly healthy: no effusion in ventricles; optic *thalamus* and *corpus striatum* healthy. Extensive *ramollissement* of the right hemisphere, the two anterior thirds of which are converted into a substance of the consistence of thick cream, and of a dirty grayish colour. The convolutions were not destroyed on the surface of the brain, but the alteration commenced at about a quarter of an inch below the arachnoid, engaging the *corpus striatum* and subjacent cerebral substance. Optic thalamus healthy; no disease in the *cerebellum, pons varolii,* or *medulla oblongata.*

Thorax.—About a quart of serum on each side of the chest; lungs collapsed. Right lung, superior lobe completely solidified When cut into, its substance soft, friable, and of an ash gray colour; when broken down, a quantity of fluid of the same colour and consistence of cream exuded; no trace of tubercles; middle lobe perfectly healthy; posterior portion of the inferior lobe solid, firm, and red. Left lung, posteriorly, greatly engorged with venous blood; anteriorly, œdematous; trachea filled with red frothy fluid; its mucous membrane vascular in the intercartilaginous spaces. Heart enlarged; upwards of a pint of serum in the *pericardium;* left ventricle considerably enlarged, its capacity increased; left auricle dilated; no disease of the valves.

Abdomen.—Peritonæum healthy; some reddish serum in pelvic cavity; liver hardened, universally mamillated; its concave surface presenting a black colour, affecting the hepatic substance to the depth of a quarter of an inch, and extending from the edge two and a half inches upwards. Omentum of a black colour. This appearance is produced by the existence of small solid bodies between its layers; these are larger than the head of a pin, and resemble dried ink. Spleen hard and black on its concave surface, but becoming soft and red towards the convex; some red spots in the large end of the stomach, the mucous membrane of which is thickened and soft. *Duodenum*, *jejunum*, and *ileum* healthy; mucous membrane of colon thinned and softened.

This case I look upon as one of extreme importance. We here see a patient of strong habit affected with quotidian fever, which certainly appeared to have more than usual severity. He was but a week ill when admitted into the hospital. Bleeding in the cold stage was performed on the twelfth day of his illness, and sixth from the date when his fever assumed the intermittent form. The paroxysms appeared to be exasperated; but on the following day the rigour did not return, and all the symptoms appeared to have vanished. On the 21st or following day, he also remained free from fever, but on the 24th, obscure symptoms made their appearance. He had some cough at night, and was extremely weak and somewhat feverish. At this period a dose of quinine was administered, under the impression that the intermittent was about to return. On the 25th, symptoms of pneumonia manifested themselves, which yielded in some degree to treatment, but soon returned, and were complicated with a new train of phenomena indicative of disease of the brain, under which he speedily sunk.

This, then, is another instance of extensive inflammation of one of the most important organs of the body coming on without any external exciting cause, in a patient in whom the intermittent had been cut short by venesection. The softened state of the brain was, in my mind, produced also in this man by a process analogous to inflammatory action. The symptoms indicative of it came on while the patient was labouring under great febrile disturbance.

In this case it is to be remarked, that during the intermittent the organ chiefly affected was the lung; accordingly, we found that on the interruption of the fever this was the first *viscus* to suffer.

In several cases in which no local inflammations appeared, the patients fell into a state of great nervous debility, accompanied with a species of low fever. This state was characterized by a soft and quick and sometimes full pulse; palpitation of the heart, increased pulsation of the arteries, which in one case presented the *bruit de soufflet* strongly marked; heat of skin somewhat increased; slight perspirations; countenance of a yellowish hue and sunken appearance; costiveness; unwillingness to move; dejection of spirits; anorexia. Whenever patients fell into this state, their convalescence was exceedingly tedious, and it was with great difficulty and the cautious use of the tonic plan that their ultimate recovery was effected. In the case in which the *bruit de soufflet* occurred, the greatest advantage was obtained by the application of a blister over the heart.

Effect of the Practice on the Type of the Intermittent.—In four instances we observed that the type of the fever was altered immediately after the bleeding in the cold stage. These were the cases of Molloy, Mechan, Madden, and Purcell. In others certainly a continued fever supervened, but this was either connected with the occurrence of internal inflammation, or was that low nervous fever which I have just noticed. In both these cases the change in general did not follow immediately on the bleeding.

In the case of Molloy, the disease was changed from tertian to quotidian; in that of Purcell, from tertian to quotidian, and afterwards double quotidian, with exacerbation of all the symptoms. In the case of Madden the tertian was checked, but after some time a tendency to relapse was manifested, the disease assuming the quotidian form. In Mechan's case, which was well marked tertian, it will be seen by reference to the table, that, on the day following that on which he was bled, and on which, if the type of the fever had not been altered, he should have been apyrexial, he was affected with symptoms of continued gastric fever. In this instance, however, as the continued fever followed the bleeding so immediately, and was accompanied by symptoms of gastritis, it is possible that it was only symptomatic of the latter affection.—(*See Table.*)

In all these instances it will be seen that when the type of the fever was altered, after the bleeding in the cold stage, it was changed either to continued fever or to a form in which the paroxysms were more frequent than in the original type. This I have observed in other instances, of which I did not keep accurate records. From what I have seen I am disposed to conclude that bleeding in the cold stage, when it does alter the type of intermittent, has a tendency to convert tertian into quotidian, and quotidian into remittent or continued fever. I never saw any example of the converse, or in which quotidian was converted into tertian.

In the following table are arranged, in a greatly abridged form, those cases in which bleeding in the cold stage was performed, and of which accurate records were kept. Many other instances in which this practice was used occurred in our wards, but of these I have not such accurate reports as would justify my drawing from them any particular conclusions.

1. Cor. Donelan, ætat. 20, 5 months ill, March 6, 1828. *Type, &c.* Quotidian; enlarged spleen. *Treatment*, two bleedings.

Rigour not checked by first bleeding, but the paroxysms ceased to recur; inflammation of submaxillary gland; its suppuration; return of intermittent; its disappearance after second bleeding; reduction of splenic tumour; *tonsillitis*.

2. John Muldoon, ætat. 20, 17 days ill,

May 24, 1828. *Type, &c.* Quotidian. *Treatment,* two bleedings.

Was bled on the day of admission; rigour shortened and rendered less severe; continuance of the disease, but in a much milder form; second bleeding on the 21st day of his illness followed by cessation of paroxysms and rapid recovery.

3. Charles Molloy, ætat. 36, 7 weeks ill, March 8, 1828. *Type, &c.* Tertian. *Treatment,* two bleedings.

Was bled on the 20th of March; rigour checked, but returning after the arm was tied up; appearance of hot without the sweating stage; conversion of the disease into quotidian. Second bleeding; he left the hospital unrelieved.

4. Laurence Breen, ætat. 63, 5 days ill, May 26, 1828. *Type, &c.* Tertian. A case of relapse complicated with pneumonia. *Treatment,* two bleedings.

First bleeding performed on the 29th of May. Cessation of intermittent and disappearance of pneumonia; ophthalmia; return of intermittent in three weeks. Bleeding again performed; recovery after a paroxysm on the next pyrexial day.

5. Owen Tierney, ætat. 32, 7 days ill, March 4, 1828. *Type, &c.* Quotidian. *Treatment,* four bleedings; six grains of sulphate of quinine after second bleeding.

No alteration in the disease until after the fourth bleeding; cessation of disease; nervous debility; arterial excitement; slow convalescence.

6. Michael Kelly, ætat. 28, 8 weeks ill, May 12, 1828. *Type, &c.* Quotidian. *Treatment,* two bleedings; use of quinine.

Bleeding performed on the day of admission; rigour increased in length by three quarters of an hour, and not diminished in intensity; continuance of the disease, but in a milder form; exhibition of quinine in six-grain doses daily for four days. Rapid recovery.

7. John Madden, ætat. 70, 3 weeks ill, March 20, 1828. *Type, &c.* Tertian. *Treatment,* one bleeding; use of quinine and wine.

Bleeding performed on the twenty-second day of his illness; rigour checked; apyrexia for three weeks; tendency to relapse, the disease assuming the quotidian form; great debility; cure by the use of quinine and wine; convalescence slow.

8. Edward Brenan, ætat. 32, strong habit, 9 days ill, July 14, 1828. *Type, &c.* Tertian. *Treatment,* one bleeding; use of quinine.

Bleeding performed on the third day after admission; rigour checked; continuance of the fever, which assumed the quotidian form. Exhibition of quinine in ten-grain doses for eight days. Slow recovery.

9. John M'Cormick, ætat. 19, strong habit, 21 days ill, July 11, 1828. *Type, &c.* Tertian; paroxysms anticipating on each pyrexial day by an hour; congestion of liver and spleen. *Treatment,* one bleeding; use of quinine in ten-grain doses.

Was bled on the 16th July; rigour checked; apyrexia for three quarters of an hour, followed by the hot and sweating stage. On the succeeding pyrexial day the rigour returned, but he had neither the hot nor sweating stages. Use of quinine; cessation of paroxysms after first dose. Rapid recovery.

10. Patrick Kenna, ætat. 40, 10 days ill, June 3, 1828. *Type, &c.* Quotidian, with *bronchitis.* *Treatment,* two bleedings; use of quinine.

No apparent effect produced on the paroxysms or disease by either bleeding. Use of quinine in ten-grain doses daily. No return of intermittent after first dose; great debility, with cough and hæmoptysis; emaciation; spongy gums; slow convalescence.

11. Charles Doolan, ætat. 40, 25 days ill, June 4, 1828. *Type, &c.* Quotidian, with *bronchitis.* *Treatment,* one bleeding; use of quinine.

No effect produced on the disease. Quinine ordered on the 7th of June in ten-grain doses daily. Cured in four days.

12. Patrick Horan, ætat. 34, 4 days ill, June 5, 1828. *Type, &c.* Tertian, with motions of the limbs similar to *chorea.* *Treatment,* one bleeding; use of quinine.

No effect produced on the disease. Exhibition of quinine in ten-grain doses. Cured in four days.

13. William Ryan, ætat. 20, 8 weeks ill, March 27, 1828. *Type, &c.* Quotidian; great enlargement of spleen; congestion of liver; debility. *Treatment,* one bleeding; use of quinine in small doses.

Disease mitigated by the bleeding. Use of quinine on the 3d of April in two grain doses, continued three times a day. Very gradual recovery; splenic tumour scarcely diminished.

14. Thomas Conway, ætat. 20, 11 days ill, March 11, 1828. *Type, &c.* Tertian. *Treatment,* bled three times.

Relief of congestive symptoms from first bleeding; continuance of the paroxysms; second bleeding followed by symptoms of gastritis; third bleeding with relief of congestive symptoms as before, followed by the cessation of the paroxysms and apyrexia; great debility; slow convalescence under the use of quinine.

15. Cath. Keogh, ætat. 19, weak habit, 3 weeks ill, March 14, 1828. *Type, &c.* Quotidian; great splenic enlargement. *Treatment,* bled twice; leeches to epigastrium; use of quinine.

Was bled on the 15th and 16th of March, with relief of the congestive symptoms and shortening of the rigour. The disease increased in severity on the three following days. Symptoms of gastritis occurred on the 19th, which were relieved by copious leeching; but on the 22d the disease returned with great severity, and so continued till the 12th of April, although she took six grains of quinine daily in divided doses. From the 25th of March the persistence of the disease might be owing to the occurrence of slight venous inflammation which took place after the second day. She was dismissed on the 23d of April free from intermittent, but with the splenic tumour remaining. In May she became again affected with severe ague.

16. William Collins, ætat. 38, May 16, 1828. *Type, &c.* Tertian; a relapse case; former attack occurred a month ago; treated by bark. *Bronchitis. Treatment,* bled once; use of quinine and tartar emetic.

The bleeding was performed on the second day of admission and fifth of his illness, with relief of congestive symptoms; rigour mitigated; subsequent stages as usual; persistence of the disease. Next rigour more violent; use of quinine in ten-grain doses; cessation of the paroxysms after first dose; exacerbation of *bronchitis;* use of tartar emetic; slow convalescence.

October 20. Health not yet re-established; he has had rheumatic pains and chilliness in the evening ever since.

17. James Abbott, ætat. 40, strong habit, 4 weeks ill, June 30, 1828. *Type, &c.* Quotidian for the last fortnight; at first tertian. *Treatment,* bled twice; use of quinine.

Bled on the first of July; rigour not checked, but he expressed relief; continuance of the disease; the paroxysms are much diminished in intensity; tumefaction of liver and spleen also diminished; bleeding repeated on the 5th; rigour checked for the time, but the disease continuing, he was ordered quinine on the 7th, after which day he had no return of the paroxysms. Discharged cured on the 16th.

18th. Martin Cleary, ætat. 26, 14 days ill, May 9, 1828. *Type, &c.* Quotidian. *Treatment,* bled twice; use of quinine.

Bled on the day of admission; rigour not checked nor diminished; continuance of the disease; second bleeding on the 18th day of his illness; no cessation of paroxysms; use of quinine in six grain doses daily; cessation of the disease after the second dose; very slow convalescence and imperfect recovery.

19. Luke Mechan, ætat. 18, 10 days ill, March 15, 1828. *Type, &c.* Tertian; well marked on admission, but at first irregular. *Treatment,* bled once; leeches to epigastrium; use of quinine.

Symptoms of gastric fever supervened on the thirteenth day, the bleeding having been performed on the twelfth; they yielded to leeching the epigastrium; slight return of the disease on the sixteenth day. Cure by quinine.

20. Dennis Purcell, ætat. 26, 11 days ill, April 3, 1828. *Type, &c.* Tertian. *Treatment,* bled twice; use of quinine.

First bleeding on the fourteenth day of his illness; paroxysm rendered milder; its return on the next pyrexial day; bleeding again performed; rigour not checked. On the following day the disease assumed the form of quotidian, and in two days that of double quotidian, with great increase of severity; exhibition of quinine in ten-grain doses; no return of disease after first dose. Cure under its use.

21. Patrick Hughes, ætat. 22, strong habit, six days ill, August 19, 1828. *Type, &c.* Quotidian; intermission not decided; paroxysms have appeared on the 20th. *Treatment,* bled once; leeches to epigastrium; use of quinine.

Bleeding performed on the 22d of August; subsequent paroxysms mitigated. On the 25th the symptoms of congestion came on at the usual period, not accompanied by rigour; but followed by the hot and sweating stages; rigours returned; splenic and hepatic enlargements are now observed; tenderness of epigastrium; exhibition of quinine on the 29th of August; no return of the paroxysms after second dose. Convalescence was extremely slow, with much gastric derangement.

22. John Casey, ætat. 40, 3 days ill, July 17, 1828. *Type, &c.* Quotidian; a precursory latent period of seven days' cough; no evidence of visceral enlargement. *Treatment,* bled once; ten grains of quinine; a second bleeding; use of tartar emetic.

Was bled on the 18th in the cold stage; all the stages of the paroxysm exasperated; apyrexia for the four following days; tendency to rigour on the 22d; great debility on the 24th; use of ten grains of quinine; supervention of pneumonia, which resisted bleeding and the use of tartar emetic; hemiplegia; insensibility. Death on the 8th of August.

From the examination of these cases, I apprehend that an impression will be received certainly against the indiscriminate or even frequent use of bleeding in the cold stage of ague. It may be remarked that in the great majority quinine had to be administered before the disease was eradicated; that many of them had an extremely slow and dangerous convalescence; that in several instances the disease, so far from being relieved, appeared exasperated by the practice; that local inflammatory affections occurred several times after the operation; and lastly, that the bleeding appears to leave a tendency to convert intermittent into continued fever. In one case, that of Casey, death from pneumonia and softening of the brain occurred. In none of my cases did any bad effect from sinking of the powers of life follow the practice immediately. But I am informed, that, in the practice of a highly respectable individual, there occurred two cases in which the patients did not recover from the collapse produced by bleeding in the cold stage. These facts should make us very careful how we interfere with nature by means of the lancet, in simple intermittent, when we have so certain, and, as far as I have seen, so infallible a remedy as the sulphate of quinine.

I do not deny that cases may often occur where venesection may be proper, such as intermittent complicated with severe internal inflammation; but shall only remark, as these cases have not come under my own immediate observation, to offer my opinion upon a purely practical point connected with them would be wholly useless. I shall conclude this paper by inserting extracts from two letters which I have received on the subject of bleeding in the cold stage of ague. I may mention that I have been informed by my friends, Drs. Townsend and Law of this city, that they have given the practice a trial, and have found it to fail in the majority of cases.

The first letter that I shall quote is from Dr. Kelly of Castlerea in the west of Ireland.

"I have never in any instance, even where venesection did not prove salutary, known fatal disease of the brain to follow; nor have I ever known death to have taken place in *three hours* after the opening of a vein. I have not time to dwell longer on the subject now, as I have to answer your queries.

"*Query* 1st. What was the general effect on the cold stage?

"*Ans.* 1st. That of cutting short the rigour and rendering the hot stage generally milder.

"*Query* 2d. What was the effect on the hot and sweating stage?

"*Ans.* 2d. I have never tried venesection in the sweating stage, and but once in the hot, when I thought it proved injurious, by inducing great prostration of strength.

"*Query* 3d. What was the effect on the local symptoms, such as cough, pain, &c. &c.?

"*Ans.* 3d. It decidedly relieved pain of the head, which I have oftentimes known to be intolerable in the cold stage. It has relieved oppression, pain of the chest and side; but at the time of bleeding I could not observe any change as to cough; and whenever the patient laboured under cough, immediately after the bleeding I had recourse to blisters; therefore, cannot say which of the remedies was most useful in relieving it.

"*Query* 4th. What was the effect on the disease generally as to preventing the return of the paroxysm?

"*Ans.* 4th. It had generally the effect of rendering the paroxysm milder, and the disease more manageable by other remedies.

"*Query* 5th. Have you observed new local inflammation to follow the practice?

"*Ans.* 5th. I have observed new local inflammation, generally pulmonic, to occur after bleeding; but I never did imagine them to be the consequence of this practice. I rather attributed them to accidental causes.

"*Query* 6th. Have you treated any cases by blood-letting alone; and if so, with what result?

"*Ans.* 6th. I have never treated any cases by bleeding alone, nor do I think it safe or proper to do so.

"*Query* 7th. Have you observed any alteration in the type of the fever to follow?

"*Ans.* 7th. I have observed alterations frequently to occur in the type after this practice; but this I have observed as frequently in cases were bleeding was not tried, when we trusted merely to other remedies.

"*Query* 8th. Has disease of the brain followed the practice when the intermittent fever was cut short?

"*Ans.* 8th. I never knew disease of the brain to follow when the intermittent had been cut short.

"*Query* 9th. Do you think the practice most applicable in acute or in chronic cases?

"*Ans.* 9th. The practice is more generally and decidedly useful in acute cases, when the constitution has not been broken down. At the same time, I have sometimes seen bleeding useful in chronic cases also.

"*Query* 10th. What is the quantity of blood that you have generally drawn?

"*Ans.* 10th. I never exceeded twelve ounces in any case, but generally did not take more than from six to eight. I never repeated the bleeding a second time in the same case.

"*Query* 11th. Has the disease in any case been exasperated by the practice?

"*Ans.* 11th. The disease has appeared to me in some cases to have been exasperated by the practice."

The following is an extract from a letter for which I am indebted to my friend Mr. Gill, who has seen much intermittent in the fens of Lincolnshire.

Nottingham Park.

"DEAR SIR—I feel very sorry that your letter should have anticipated my intention of writing you, as perhaps you may think I had forgotten my promise of so doing. But that was not the case. I was merely waiting to give you more fully the extent of my practice in intermittent fever. Without any more preface I shall answer your queries in order. 1st. 'How often have you employed the practice?' Thirteen times. 2d. 'What have you observed as to its effects in the various stages of the paroxysm?' I have bled five times before the usual time of the cold stage had arrived; in some one hour; others half an hour; another a quarter of an hour; and in one two hours before its usual time of appearance. The result was as follows:—In the first case, that of a strong healthy man, the cold stage occurred daily at 2 o'clock P.M., continuing about one hour, and followed regularly by the hot and sweating stages. I should mention he had never before been attacked with the ague, and it was only of three days' duration. I bled him largely *pleno rivo*, one hour before the expected paroxysm, viz. at 1 P. M. At ten minutes past 2, however, the shaking fit came on, but certainly not so violent in degree as the previous rigours. He complained less of the headach and sickness; and at a quarter to 3 this stage of the disease had disappeared, being fully a quarter of an hour of less duration than previously; but I am sorry to add, that the second stage was much more severe and protracted. The fever, headach, and restlessness most certainly were exaggerated, and an hour's longer continuance than before; and this hour seemed to me as if taken from the third or sweating stage, which was much more moderate than usual; but the patient did not feel that relief which he had done before in this stage of the paroxysm. I bled this man the next day at the same hour, and took away an equal quantity of blood. The cold stage came on in the same way as above described, and continued about the same time, but the fever was again more violent and of longer duration, and the sweating stage in the same proportion less. Notwithstanding these unfavourable symptoms, however, I determined the next day to continue the practice; but on my visit found the type of the fever completely altered; in fact, the man had all the usual symptoms of approaching typhus, viz. violent pain in the head, black fur upon the tongue, pulse quick, rather feeble, &c. Of course my treatment was altered; and by a liberal allowance of stimulants and tonics, with saline medicines, this man *fortunately* got well. I have given you fully the particulars of this case, as it is very important in its nature, and might have been of fatal termination.

"In the four other cases where I bled before the approach of the cold stage, I must candidly say, that, if I saw no *direct ill* arise, most certainly I saw no *immediate* good. Time alone can tell whether future ill effects may be averted by this plan of treatment. Again, I have bled five men during the shaking fit. I have observed in four of these that the fit was certainly *cut short*, in the other no perceptible alteration was visible. Bleeding appears to me certainly to have the power of cutting short the cold stage, but then by so doing it seemed to be the means of lengthening the febrile stage, and in almost all cases I found the sweating stage diminished in a ratio with the length of the febrile state. Besides, in all these five cases the fit made its appearance at the usual time. Some of these patients I have bled once, others twice during the continuance of the cold fit, and I feel morally certain, that if I had again and again bled them, typhoid symptoms would have been induced. If you wish further and more minute particulars of these cases, I shall be most happy to furnish you with them.

"I have practised venesection three times during the febrile state, where the pain in the head has been intense, I think with good effect. Perhaps, then, you will ask, what is my practical opinion of bleeding in the cold stage of ague? My opinion must certainly be qualified. In the fens of Lincolnshire all fevers partake more or less of the intermittent character; and experience teaches us, that, by what cause soever debility is induced, continued fever will be the effect. Whether this arises from any peculiar state of the atmosphere, or whether it is a natural consequence, I know not, though I am inclined to think the former. From this fact alone, if it can be proved that venesection during the cold stage produces debility, the practice must be exploded; besides, the present practice here is successful in ninety-five cases out of a hundred. By successful, I mean not only in curing the present symptoms, but in preventing future ill effects, such as enlargements of the spleen, liver, pectoral complaints, &c. Our practice is the following.

"On the first appearance of aguish symptoms, an emetic is exhibited, and the bowels are opened. We give the saline mixture in the febrile stage; and, as soon as the sweating stage is terminating, we administer every two hours two grains of the sulphate of quinine, with a liberal allowance of port wine. In the place of these, after the symptoms of intermittent have vanished, the patient is placed under an alterative plan of treatment, viz. pills of submuriate of mercury and bitters, which mode of treatment we find almost effectually to prevent organic diseases.

"Your third query, viz. 'Has it in many cases cut short the rigour?' I have already answered. Your 4th is, 'Have you observed new local inflammation to follow the practice?' Most certainly I have not. 5th. 'What has been its effects upon the local symptoms usually present?' I have generally found all patients during the shaking stage suffering from cough and difficulty of breathing. Bleeding undoubtedly relieves these symptoms, as well as the pains experienced in the splenic and hepatic regions; but when we consider that stethoscopic examination discovers no bronchial inflammation immediately after the cold stage has terminated, bleeding can never be recommended on that account.

"To the question, whether the type of the fever was altered? I have already adverted sufficiently. 6th, 'As to whether diseases of the brain followed?' I cannot give you any information from experience on that point. Upon the whole, from an impartial review of all the cases in which I have practised bleeding in the cold stage of ague, I should most certainly, as a moral practitioner, give my decided veto to the practice, conceiving it not only to be useless, but dangerous when *indiscriminately* followed,—I say indiscriminately, for cases might occur where I should think venesection might be necessary,--such as when a person suffering from pulmonary inflammation is attacked with aguish symptoms, &c. It is an anomaly which I cannot explain, that in Lincolnshire, where the atmosphere is perpetually moist, and where the mists and exhalations are excessive, cases of pulmonary consumption are very rare indeed. Would you not suppose that in persons predisposed to phthisis, these pulmonary congestions would act as an exciting cause?"*

From the London Medical Gazette.

ESSAYS ON SYPHILIS. By John Bacot, lately Surgeon to the First Regiment of Guards.

(Continued from p. 303.)

GANGRENOUS ULCER.

I have now to describe some of the most formidable and distinctly marked varieties of syphilitic ulceration; and I shall commence with what I call the *gangrenous ulcer*, which I distinguish both from the sloughing and phagedenic sores. By the gangrenous ulcer, I mean that species of sore which is occasionally met with on the internal prepuce, or in the angle between it and the glans penis. It is easily recognised by the great inflammation and the excessive pain by which it is accompanied: it is attended also with a full, hard, and frequent pulse, much thirst, and all the general symptoms of fever. This ulcer, if left to itself, proceeds rapidly in its work of destruction: the prepuce and the glans are speedily destroyed by the rapidity of its progress, and it is not until perhaps a considerable portion of the penis has undergone the process of gangrene, that the fury of the complaint appears to have expended itself. This, however, seldom happens, because there are few who do not seek for assistance at an earlier period of the complaint; and, indeed, nature not unfrequently interposes for the security of the patient by the occurrence of an hemorrhage from some blood vessel of the part; in consequence of which the symptoms become suddenly mitigated, the dead parts are cast off, and a healthy surface presents itself. This is a form of disease in which the exhibition of mercury is attended with the most mischievous effects, and, perhaps, of all the medicines with which we are acquainted, it is the most to be avoided. The principle upon which this disease is to be treated is that of subduing inflammation: you will often find, upon inquiry, that this ulcer commences with a mere pustule, or pimple, as in other cases; but in the course of a few hours, or perhaps in a day or two, pain and tumefaction of the part ensue, a general feeling of restlessness, with alternate chills and flushes, come on, the appetite declines, and the sore extends by forming and casting off a succession of sloughs. It is not, as in common inflammation proceeding to gangrene, that a certain portion is doomed at once to destruction, and the line of demarcation is plainly apparent, but this extension of the sore shall continue for an indefinite period, until the disease appears to have, as it were, worn itself out. These sores generally afford a thin, acrid, ichorous discharge; and when they occur in those persons who have the prepuce long, they are much more troublesome, and, generally speaking, less manageable, than in the contrary condition of that part. Such is the character of the most aggravated form of the gangrenous ulcer, which, in its milder form, appears to me to be the same which some authors have called the phagedenic, others the sloughing, and others again the irritable chancre: and here I cannot but lament the want of precision in the language usually adopted in treating of these complaints. Since a mistake in the description of the sore necessarily leads to a misapplication of the means of cure, it is highly important to affix a distinct meaning to the terms we employ; for though language is defective, I fear it is not much more easy to delineate these various characters of disease, so as to avoid confusion. I beg, then, to repeat, that I restrict the term of the gangrenous syphilitic sore, or sores (for there may be more than one,) to that wherein the pain, redness, and tumefaction of the parts, is accompanied with general constitutional disturbance, wherein there is great thirst, loss of appetite, a rapid and full pulse, and the subjects most usually attacked being the young, florid, and robust; whereas the phagedenic ulcer, according to my construction of the term, is one in which the ulcerative process proceeds with rapidity, where an imperfect kind of cicatrization takes place at one extremity whilst the disease proceeds in another direction, and where the state of health is rather denoting an irritable than an inflamed condition; the pulse is frequent, but not indicative of strength, and all the animal functions are in a depressed and weakened state. This sore, in fact, is usually the consequence of a mal-administration of mercury, and is more prevalent in the female than in the male sex. I do not acknowledge it as the genuine and regular consequence of the action of the syphilitic poison, but believe that either an irritable constitution, or mismanaged and misapplied mercury, have given rise to the peculiar character of the ulceration, and thrown the disease out of its usual course.

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* On the curious fact that in marshy districts, in which ague is frequent, pulmonary consumption is little known, Dr. Wells many years ago collected a great deal of evidence. But of these facts no general principle entitled to the character of an explanation has yet been discovered.--Transactions of a Society, &c. vol. iii.

The sore which I designate the sloughing ulcer is denoted by a great and remarkable degree of surrounding hardness; by a livid bluish colour; by its hollowness; by the sloughs being cast off in patches rather in depth than breadth; the health being undisturbed, and there being neither pain nor inflammation accompanying it. This last is the sore which Mr. Evans calls the ulcus induratum, I imagine, and which Mr. Carmichael has occasionally named the sloughing ulcer, as I have done; but he does not appear to restrict the term to this species only. You will find many authors asserting that such an ulcer is probably that described by Celsus, or by some other ancient writer: I shall not often allude to these distant authorities, because we have now to do with matters of fact, and if we do not at this time rightly comprehend the descriptions given by our contemporaries, it is not very likely that we can give any thing of practical advantage by endeavouring to trace a similitude between the ulcerations that we now are called upon to treat and those described by Hippocrates, Celsus, or other ancient writers.

But to return from this digression:—You will find authors asserting that the gangrenous ulcer is not followed by secondary affections; and in the majority of instances this is the case, though the rule admits of many exceptions; and in my own practice, I have more than once met with an eruption of papulæ, preceded by pains in the joints, come on even before the original sore was perfectly healed. These instances of secondary affection generally follow the less violent forms of this ulceration, for it is not always met with in the same degree of intensity; and it appears very probable to me that, in the most severe cases, the poison is prevented from exerting its usual effects upon the constitution in consequence of the rapid destruction of the parts, and that therefore absorption does not in general take place. The same remark has been made by Mr. Pearson, when treating of the employment of cinchona in this species of ulceration, to which, however, I consider it to be entirely inapplicable; nor can we draw any favourable opinion of that medicine from the cases which he has related, since that can scarcely be lauded as a cure which implies the destruction of the whole penis. The disease, if left to itself, could indeed hardly have done more. The means of cure which I have always found to be the most successful, are those which have also been advocated by Mr. Rose and Mr. Carmichael, under similar circumstances. Blood should be freely abstracted, the bowels opened thoroughly, and the constitution put, as quickly as possible, under the depressing influence of the tartarized antimony, in divided doses. As a local application, I have found the poppy decoction, applied warm, the most soothing during the inflammatory stage, or a watery solution of opium. When the disease is checked, however, the balsams applied upon lint have appeared to me to hasten the exfoliation of the sloughs, aided by a warm poultice, in which the diseased parts should be wrapped. By the balsams I mean those of Peru or of Copaiba, or the compound tincture of benzoin. As soon as the pulse has felt the influence of the depletory measures employed, opium in liberal doses cannot be too soon administered. Under this plan of treatment the disease will usually be arrested in three or four days; sometimes, if the patient makes early application, there will be a chance of saving the glans—but under every circumstance of favourable and early treatment, the complaint, in its most violent form, is a very formidable and alarming one, and some degree of mutilation is unfortunately very difficult to prevent. When the gangrenous process is checked, which process is only the effect of high excitement and inflammation, the appearance of the sore is generally florid and healthy, and it is usually remarkable for the rapidity with which it proceeds to cicatrization. This, however, must be understood with some reservation, for it now and then happens, when every thing appears to be going on well, that the surface of the sore begins to look glossy, the secretion is altered both in quantity and quality, the granulations are loose and unhealthy; and this is the preliminary step to the establishment of the ulcerative process. What, then, it may be asked, are we to do under these circumstances? To this I answer, that we must give mercury, and which we can do in this condition of the sore with as great a certainty of doing good as we should before have done mischief by its exhibition; for the whole circumstances of the case have become changed; the constitution of the patient has been materially reduced, as well as altered, by the previous treatment. Now there is evidence before us that the syphilitic poison is beginning to assume an activity; and it is at this period, too, that occasionally this suspicion becomes converted into a reality, by a slight renewal of feverish symptoms, by want of sleep and restlessness at night, attended with pains in the shoulders, elbows, knees, and ankles, and, soon after this, by an eruption of copper-coloured spots, or papulæ, sometimes with acuminated heads in the centre, at others having thin branny scales; and which eruption generally selects the breast, shoulders, or forehead, for its first appearance. In either of these events, then, I recommend the immediate administration of mercury—that medicine so often abused and depreciated, but to which the profession always has returned with renewed faith and confidence, and to which might be fairly applied the remark that Helvetius has made relative to the Catholic religion, which he says has often been vehemently attacked, but has always a means of defence; though, in defending herself, she has been obliged to give up some of her outposts. So it has been with mercury: often assaulted by ignorance, or by prejudice, it has again lifted up its head —but not without losing some portion of its importance, and becoming restrained within more confined limits, and adopted under more precise regulations.

The gangrenous ulcer, which, as I have before said, sometimes heals with rapidity after the gangrened parts have been thrown off, proceeds to cicatrization under the use of simple applications; the health and strength daily improving: so that by the time cicatrization has taken place, the patient is restored to his pristine state of health. This desirable event will be much hastened by the employment of cinchona with the mineral acids, the sulphuric in particular; and a change of air will be highly beneficial as soon as the local disease will permit of motion. In these instances I should therefore upon no account have recourse to mercury. It is more than probable that secondary symptoms will not ensue; and if they should, it will be time enough to arrest them when they appear. But it is, I think, not only fair towards the patient, but prudent, as far as your own character is concerned, to explain to him the probabilities of the case, that his attention be awakened by any deviation from his usual state of health, and that no time be lost under a mistaken view of his condition. Thus far with regard to the gangrenous ulcer when it heals kindly and uninterruptedly; but when, on the contrary, the healing process suddenly becomes arrested, as I have before said, and the appearance of the sore to change in the manner I have described, the first inquiry to institute is, whether the general health partakes in the alteration; whether the stomach or bowels have become deranged, or there are any general causes which can have led to this deteriorated condition of the sore: if this should appear to be the case, a cathartic, with an antimonial medicine, and a recurrence to an abstemious diet, will probably put all to rights again. The ulcer will again put on its florid look, and proceed in its progress towards cicatrization; but if, on examination, none of those symptoms are detectable, mercury should be administered at once. The mode of doing so is perhaps of less importance if the bowels are not irritable: the blue pill, mixed with a small proportion of opium, in doses of five grains, may be given twice or three times in the day; and of the strong mercurial ointment a drachm may be rubbed into the thighs every night. The object here is to have the evidence of mercurial action upon the system, which is best denoted by the condition of the gums. It is not that a sore mouth, in the usual sense of the word, is at all essential to the cure, but it is the best proof of the general action of the remedy upon the system; and the curative process is not so satisfactorily or certainly performed where that proof cannot be obtained. In the administration of mercury one precaution is absolutely necessary; either perfect confinement to the house, or such care in the exposure to weather, and such precaution against damp clothes or wet feet, or other sudden transitions of temperature as shall be equivalent to it. These are old precautions, it is true; so old that I am sorry to say they are worn out; and now we meet with people every day who are getting cured of syphilitic complaints, and taking a mercurial pill or two, as they will tell you, pursuing their usual business; or, what is still worse, usual debaucheries, without fear of the consequences; but this is a line of conduct which I never would sanction.

Under the mode of treatment I have mentioned above the ulcer will most usually reassume a healthy aspect; not, however, all at once, but generally from the circumference to the centre. Fresh granulations will make their appearance; and now it becomes a question how long the mercurial treatment must be persevered in. I know of but one criterion by which to form my judgment; for I cannot believe that in every individual the same precise quantity can be necessary, or that it acts upon the system by its weight. This is not the place for this inquiry; but I must observe, that I should not think my patient secure as long as any hardness, or elevation, or diseased condition of the cicatrix, remained; but that I should continue to administer the remedy cautiously and uninterruptedly, until that end was obtained; but it would be equally unwise to persevere in the exhibition of the remedy, if, instead of putting on a healing aspect, when mercury had produced its legitimate effect upon the system, ulceration should continue to spread; and still less if that should be the case, as it sometimes is, where mercury excites its own specific fever. In either of these events it must be abandoned immediately, or consequences much more serious will ensue; and then the sore must be treated upon those common principles of surgery which would apply to unhealthy ulceration in other situations. If, however, no evil consequences to the general health follow the use of the remedy, the local treatment of the ulcer will be very simple. To keep down luxuriant granulation by the lunar caustic, or a weak solution of sulphate of copper, or by an ointment composed of the red precipitate, with some simple ingredient, will generally be found sufficient for the purpose. To illustrate the symptoms, and mode of treating this form of ulceration, I shall give a sketch of three cases; one recorded by Mr. Rose, another by Mr. Carmichael, and one that occurred in my own practice; and I have so selected them, that in the first you should perceive the most aggravated form of the disease; in the second one it is obviously the result of improper treatment in the first instance; whilst the third is an example of secondary affection coming on not above a month after the cicatrization of the primary sore.

Thomas Clarke, of a full habit of body, twenty-one years of age, was admitted into the Coldstream hospital with six or eight deep irritable sores on his internal prepuce: the surface of these was covered with a dark coloured slough; they had thickened and highly inflamed margins; and discharged a very acrid ichor. He complained of much headach and thirst; had a quick pulse, and other febrile symptoms. The sores had been present three days, and were perceived a week after a suspicious connexion; the glands in each groin were enlarged. He was ordered a brisk dose of jalap and cream of tartar, and six grains of antimonial powder, and a small quantity of Epsom salts every four hours. Cold saturnine lotion was applied to the parts. On the two following days the febrile symptoms were increased. He had restless nights; frequent cold chills; much headach; and a constant irritable cough. His tongue was covered with a white fur; his pulse was quick, and not easily compressed; and his skin hot and dry. He had much pain in the sores, which were rapidly extending and running into one another; a dark coloured inflammation surrounded them, which terminated immediately in gangrene. He had been freely purged: the cold lotion was laid aside, and the decoction of poppy used as a fomentation. On the third day the sloughing had extended, and a considerable portion of the corona glandis was destroyed; a hemorrhage took place from it this morning, by which he lost a pint of blood; an artery of some size in the glans was secured by ligature. Equal parts of balsam of sulphur and oil of turpentine were applied to the sore; and the cold lotion was again had recourse to. The following day the sloughs had no disposition to separate; and on the body of the glans, anterior to the margin of the sore, several dark coloured spots had shown themselves. He had violent burning pain in the glans; his face was flushed; his tongue covered with a brown fur; and his pulse 102. The day after he had two returns of hemorrhage, but not to a great extent; he was somewhat less feverish, but weaker. The prepuce was slit open, the sore dressed with compound tincture of benzoin, and a fermenting poultice applied over it. He was ordered beef tea, and a draught with camphor mixture and spirits of ammonia every three hours, and some compound ipecacuanha powder at night. The next twenty-four hours the burning pain was relieved, there was a good deal of dark-coloured discharge in the poultice, the glans was separated from the corpora cavernosa, and in a few days the whole sloughs were thrown off, but it was not until the lapse of ten days that healthy granulations began to show themselves, and within three weeks after the sore was healed. This man is noticed at the end of some months as not having had secondary symptoms.

Such are the principal facts of this very instructive case. Mr. Rose anticipates the remark that I should wish to make, that an early bleeding would probably have been very beneficial; but this history points out to us almost every circumstance necessary to be kept in mind in this species of ulceration: first, the great local pain, the rapidly extending and gangrenous character of the sore, the high symptomatic fever, the benefit derived from spontaneous hemorrhage, and the advantage of warm fomentations: it would also appear that the terebenthinate application was premature, inasmuch as the inflammatory symptoms had not at that period expended themselves.

I next present you with Mr. Carmichael's case, premising that he denominates the sore phagedenic. Michael Cleary, admitted on the 19th of December; the entire prepuce either presenting a sloughing or a phagedenic ulcerated surface; the glans penis could be seen in a similar sloughing and phagedenic state, projecting through the ulcerated edges of the prepuce, the entire penis swollen and inflamed, pain excessive, high symptomatic fever, pulse 120. He stated that the ulcer first appeared on the glans about a month before his admission, and that he had rubbed in fourteen drachms of mercurial ointment; he was bled to ℥xvj.; had the solution of tartarized antimony prescribed, and to the parts a fomentation and poultice: the 20th, he was bled again: on the 26th, the greater portion of the glans was in a state of slough; on the 2d of January the entire glans and prepuce had separated; the symptomatic fever reduced. Ext. Conii, gr. v. was ordered three times a day. The ulcer healed so rapidly that it was necessary to introduce a piece of bougie into the urethra to keep that passage open.

Mr. Carmichael's commentary upon this case is, that the loss of the glans and prepuce might have been prevented, if the depleting plan had been adopted instead of mercury before his admission. This I believe to be a very just and important remark; and I quote the case in order to show you the mischief of prescribing mercury under that peculiar condition of the system, both locally and generally. The last illustration of this ulcer which I have to relate is that of Drummer Colquhoun, of the Grenadier Guards, who was admitted into the hospital with a deep sloughy sore, extending round the upper half of the corona glandis. The penis was much swollen, and the next day he could not retract the prepuce. The pain in the part was very great, and his pulse was both frequent and full. Six leeches were applied to the penis, a brisk purgative was ordered, and on the following day he was much easier; for, in addition to the blood drawn by the leeches, there had been a considerable hæmorrhage from within the prepuce; the penis was fomented, and he took a saline antimonial medicine every six hours. In about ten days he was enabled to denude the glans, when the ulcer was found to be in a healing state. It healed in about another fortnight, and he was discharged to his duty, having used no mercury. In about a month this man returned to the hospital, having very visibly declined in flesh. He complained of great pain in all his limbs, very much aggravated at night: the left elbow-joint was much enlarged, and very painful to the touch, but not at all inflamed; but there was no fever, and the appetite was unimpaired. A blister was applied to the elbow, and he was ordered five grains of the blue pill twice a day. The blister relieved the pain, but did not diminish the swelling. In about ten days his mouth became tender. He continued to take mercury for five weeks longer, entirely lost all his complaints, and had experienced no relapse at the end of two years.

Upon this latter case I shall make no comment; I relate it to you merely as establishing the fact I mentioned above, of the occurrence of secondary symptoms occasionally after the gangrenous ulcer, even almost as soon as it has healed.

From these cases you will, therefore, perceive both the usual progress of the symptoms, the local termination, and the possible consequences that may result from it.

SLOUGHING ULCER.

I next proceed to the description of what, in my phraseology, I call the *sloughing ulcer;* which answers to the ulcus induratum of Mr. Evans; and which Mr. Carmichael, I imagine, has described as the true Hunterian chancre, followed by the scaly venereal disease. Of this, however, I am not positive; and I draw the inference merely from his description. At all events, this is a form of ulceration not by any means uncommon in this country, and is most assuredly followed by a train of secondary symptoms, unless it is treated by mercury. The appearance of the sore is very remarkable, so that when once it has been seen it will scarcely be mistaken afterwards. Its usual situation is the inner prepuce, just where it unites with the glans penis. The first coming on of this ulceration is, I believe, denoted by the formation of a pimple in many cases: it also makes its appearance sometimes in connexion with a large patchy excoriation of the surrounding parts; which, however, heals up quickly and readily, leaving only a central spot, which is the nucleus of the ulceration. This quickly enlarges, and is characterized by a cartilaginous hardness, without pain or inflammation: the colour of the sore, which is a little excavated, is of a livid bluish tint: it affords an unhealthy foul discharge, having little or no resemblance to purulent matter; and the sore extends by casting off sloughy shreds, and rather burrows into the substance of the parts than extends much laterally. In this case the general health suffers no derangement; and there is no local pain, excepting where the prepuce is long, and an attempt is made to denude the glans. On the first establishment of this sore, it is generally easy enough to draw back the prepuce so as to ascertain its nature, if the patient complains early; but the lapse of a few hours increases the surrounding hardness so much that it afterwards becomes impossible to denude the glans until the sore is reduced to a healing condition. Now the treatment of this sore is very simple; and there is no species of ulceration which more readily yields to the judicious employment of mercury. As an application to the part, the black wash, composed of one drachm of calomel to four ounces of lime-water, is by far the best; indeed, as far as my experience goes, I should say the only one, required. If the prepuce cannot be withdrawn, the surface of the ulcer may be washed with this lotion by means of a syringe: in common cases, it may be applied upon a piece of lint two or three times a day. In the general administration of mercury in this case, I should insist upon the absolute confinement of my patient to the house—entirely, if possible, but certainly in the evenings; for I have observed that there is always a strong tendency to constitutional affections following this class of sores; and I cannot, therefore, recommend a trivial or slight use of the remedy. My plan would be, to let the patient rub in a drachm of the stronger mercurial ointment, night and morning, until the mouth became affected, simply tender; and afterwards to proceed more slowly, carefully watching its effect upon the general health. I have always found, when the mercury began to act upon the system, the most decided and rapid change in the face of the sore: a florid red succeeds to the livid colour, the matter discharged is good, and the surrounding hardness disappears rapidly. When this is the case the black wash is no longer useful as a local application; a clean piece of lint is alone necessary; and nothing remains but to continue the administration of the mercury until the hardness be entirely gone—absolutely invisible: and then let it be understood that our patient, though well, is in a condition far from safe, with a constitution loaded with mercury, and prone to disease from the very circumstance of long confinement: he is anxious immediately to return to his former habits of life, nor can we prevent this; but we are at least bound to lay before him the probable consequences that may ensue, if, in defiance of caution, he exposes himself to the chance of taking cold, until the lapse of two, three, or more weeks. These consequences sometimes become very serious, and lay the foundation for numerous diseases, even worse, perhaps, than that from which he may have just escaped. Of these I shall have to speak when I come to consider the effects of mercury on the constitution: I now only mention them in order to put you on your guard in the treatment of these patients after they are, to all appearance, cured of their complaints; for there is nothing more perplexing and vexatious, to the young surgeon especially, than to have his syphilitic patients return upon his hands with symptoms so equivocal that it requires much judgment to discriminate them from the real consequences of the venereal disease, and much firmness to quiet the alarmed mind of the patient, and to prevent him from having recourse rashly to mercury—the very source of his present maladies. The veteran surgeon may, perhaps, despise these reflections; but they are not the less important because he may stand firm in the security of a great name, and an established reputation: the young surgeon has this edifice to raise; and he can only succeed in so doing by securing the confidence of those who entrust themselves to his care: and nothing, surely, can tend to shake that confidence more than the return of disease at *the end* of a tedious and disgusting process; in fact, at the very moment that he considered himself as free from all medical restraint.

APTHOUS ULCER.

That species of ulceration which I designate the *apthous*, is one of common occurrence: it is the form in which syphilitic virus establishes itself usually on the frænum, or rather the little depressions on each side of it, as well as upon the glans penis itself. The first appearance of this sore I am unacquainted with: I have never seen it otherwise than as an apthous spot, surrounded with a deep red circle of inflammation. It is often stationary, or at least makes but little progress for a few days; but at last the ulcerative process is established. If situated near the frænum, that part either becomes included within it, or is undermined and destroyed from below outwards. The ulcer frequently extends itself in a circular manner, or rather like the segment of two circles, until the upper one sometimes reaches the orifice of the urethra, and often extends a little within it, causing great smarting and uneasiness in passing the urine. If situated on the glans there is frequently but little inflammation round the edge of the ulcer; but it will burrow deeply and ulcerates rapidly, forming a cup-like excavation. It has often been recommended to destroy these apthous appearances when first discovered; and, under certain conditions, there can be no objection to doing so: but I think those who have had extensive experience in these complaints will readily admit that they have often been disappointed in their expectation of destroying the disease by this means: on the contrary, they will have often found ulceration spreading itself more rapidly in consequence of the irritation produced; and I believe that the employment of the caustic is only successful in those cases where the surgeon is enabled to apply it before the process of ulceration has begun: for when the apthous spot is surrounded by a well-defined and decided margin of inflammation, not only is it of no use as a preventive; but it has appeared to me generally to hasten the extension of the sore.

With respect to syphilitic ulcers on the glans penis, I have farther to remark, that this part alone is not nearly so often the seat of disease as might have been anticipated, and that although it is very common for ulceration to spread from the edge of the internal prepuce upon the glans, it is by no means so to find a syphilitic ulcer confined entirely to the glans itself; and when mercury is administered, it is equally necessary to be cautious in its exhibition, and to watch its action upon this part; for if phagedenæ become established, the rapidity with which it is destroyed is truly alarming: in sores situated and commencing solely and entirely on the glans, I should be loth to adopt the use of mercury, unless the margin was inflamed, raised, and hard, for it is in this situation that this character, supposed to be peculiar to venereal ulceration, is always to be met with. Mr. Howard mentions a useful example of this kind, and a similar case came under my care some years ago, where, in defiance of the opinion of one of the most celebrated surgeons of this town, a small uninflamed simple sore on the centre of the glans was converted by the inordinate use of mercury into a deep excavated ulcer, occupying a large space of the glans; the patient had taken mercury by the mouth, and rubbed in without advice, or rather against it, and had travelled in this way from Paris to Geneva, where becoming alarmed, he returned to London, and it was upwards of three months before the sore was healed, leaving a considerable depression from loss of substance. With regard to the treatment of the apthous ulcerations, then, you may, if they are presented to you in their very origin, supersede them by the employment of the caustic; if ulceration has commenced, the use of a mild saturnine wash, or a gently stimulating application, (the mel eruginis, largely diluted, or the sulphate of copper) will be advisable. Mercury should also be exhibited; but it is better in these cases, I believe, to commence slowly, and to prescribe it with moderation. I am generally contented with its internal exhibition, and prefer the blue pill to every other preparation; rest and quietude are equally necessary in the cure of these ulcerations as in either of the former: first, with reference to the general health, and secondly, because bubo is very apt to accompany or even to succeed to these sores: but it is remarkable that when the glans penis only is the seat of ulceration, that enlargement of the inguinal glands seldom takes place. The time requisite for the perfect cicatrization of these sores is usually very considerable, especially where the frænum becomes involved in the disease, and whenever that is the case its destruction is, I believe, inevitable. I do not think these sores usually go through their several stages in less than from twenty to thirty days; and here I am not inclined to press the exhibition of mercury to any great extent; when the ulcer is healed it may in general be discontinued; there is seldom any hardness remaining, and wherever buboes accompany it, and proceed to maturation, the continued exhibition of mercury must be looked upon with much apprehension; for beyond a certain point the perseverance in this medicine appears to do decided harm, and I have often had cause to lament its continuance where the ulcer just healed has begun again to assume an unhealthy aspect, or the bubo, if suppurated, to discharge a profuse and sanious matter, the surrounding skin to ulcerate, and the general health to give way. Those ulcers which are situated in the neighbourhood of the frænum, which they invariably destroy, are extremely apt to put on this rebellious appearance when mercury has been pushed too far or continued too long: they are not often accompanied by bubo, but they will continue to retain an unhealthy ash-coloured appearance, neither extending nor diminishing much in point of size, for many successive weeks; neither mild nor stimulating applications appear to have the slightest effect upon them; the patient's health is usually good, but if rigidly examined, there will be found to be some slight deviation of the pulse from the natural standard, the rest will be acknowledged not to be sound, and the appetite capricious, or diminished. I believe there is nothing that can be recommended with confidence in this condition of the ulceration—perhaps the balsom of Peru or copaiba, mixed in equal proportions with yolk of egg, forms the best local application: the patient may be sent in a favourable season to the sea-side; he may be freely purged, or take the sarsaparilla occasionally with advantage: all we can say is, that the sore will get well; but it generally requires twelve or fourteen weeks to complete the cure under such circumstances; and I scarcely know any case more annoying to the surgeon and the patient, for the ulcer will often not exceed the size of a silver threepence, and yet week after week shall elapse, and notwithstanding all your endeavours, it shall not vary an atom in size, nor alter its character in the smallest degree. I need not say that these are proofs that mercury has been carried too far; but it must be your care to prevent these evils by watching cautiously the condition of your patient, being satisfied with a very mild and careful exhibition of the remedy, and pausing the instant you find any sign of either constitutional or local derangement. In general I am content to prescribe the blue pill in doses of five grains twice in the day; the operation of which upon the system will become apparent in seven or eight days in the majority of instances, and then all we have to do is, to keep up this effect until the ulcer is perfectly healed. The plan of treatment necessary to be adopted in those melancholy cases which we sometimes meet with, where, in consequence of the rash administration of mercury, phagedena has taken place, will come to be considered when I treat of the deleterious effects of mercury; for according to my arrangement I do not acknowledge a phagedenic ulcer as the direct consequence of syphilis.

I have not said so much, perhaps, as I ought to have done regarding the local management of the sores just described; but you must vary your plan according to the different stages of the ulceration: in the inflamed condition mild washes, and poultice where the situation of the sore admits of it, will be most advisable; after which the red precipitate ointment, or Bates's camphorated lotion, or the sulphate of copper diluted with water, will expedite the formation of healthy granulations. As a general remark it may be observed, that greasy applications are not to be recommended in the early stages of these ulcerations; and when they have become healthy, little else than cleanliness and dry lint will be requisite: when the frænum gives way, a trifling hæmorrhage will occasionally occur, but it usually ceases spontaneously, and at most only requires the application of caustic or the blue vitriol to arrest it.

RAISED ULCER OF THE PREPUCE.

I come next to consider the only remaining distinct form of syphilitic ulceration which I am enabled to make out, that is, the raised ulcer of the prepuce, which Mr. Evans has called venerola vulgaris, admitting two varieties of it, and Mr. Carmichael has designated by the name of the primary venereal ulcer. This ulceration demands our especial attention, since its appearance in its several successive stages differs very much, and therefore the same description will not apply to it throughout its whole course; it is also of very common occurrence, and leads to constitutional symptoms in a great majority of instances, though that appears to be less certainly the case than in the Hunterian chancre, or the sloughing one. This species of ulceration has been noticed by Mr. Howard in very distinct terms: he says, "Another form in which the disease appears as a first symptom, is that of a brownish kind of scab, somewhat depressed, as if the parts were rotten beneath, with the margin of the scab separating from the surrounding skin." This description is strictly applicable to one stage of this ulceration, but only to that one; and therefore we must pursue it from its first invasion, in order to understand the various aspects which it may occasionally present, since we may be called upon to decide upon its character in various periods of its existence. This sore is liable to more variety also, in consequence of situation, than any other, for its appearance upon the outer skin of the prepuce, penis, or scrotum, is very different, in degree at least, from that which is met with when it is situated within the prepuce, or on the glans itself; the great characteristic is, that in no stage is the hardness surrounding the sore so great as in the sloughing ulcer; there is, however, more pain, the margin is commonly inflamed, and the healing process very tedious: much thickening also remains after cicatrization, excepting when seated on the glans, when a depression is usually the consequence. This thickening of an ulcer has been made by one writer on syphilis as the best criterion of every form of venereal ulceration, and he declares that he is so much guided by the feel of the surrounding parts, that whenever called upon to pronounce whether a suspected sore be a chancre or not, if his reputation depended on the decision, he would rather trust to his fingers than his eyes, provided he had the choice of either, but was debarred the use of both. I do not quite concede to this opinion in all its extent; but unquestionably in treating those ulcerations of the genitals which do not fall exactly within the descriptions given by authors, the circumstances of induration, inflamed and hard margins, would go a good way in deciding the character of the sore, and consequently in regulating our practice.

The elevated ulcer has, as I before observed, four stages; in the first instance it appears as a pustule, which, after the lapse of some days, ends in the formation of a scab, ulceration going on underneath it, and the matter finding at length its exit from the edges of this scab. The form of this ulcer approaches to the circular, especially when upon the outer skin of the penis, or on the scrotum. This scab is usually of a brownish colour; and as it continues to increase becomes more elevated and darker. When this falls off, or is removed, a hollow ulcer is discovered, of a dirty and unhealthy hue; the edges of which are at first raised, but a spongy kind of fungus soon rises above the level of the margin; and hence this sore derives its common appellation, which I do not think by any means an happily chosen one; since, when seated on the inner surface of the prepuce, this characteristic mark exists in a minor degree, and when on the glans, the very reverse of elevation takes place. Mr. Evans observes, that when this sore has attained its greatest size it remains stationary for a certain time, and many other authorities confirm this remark: at all events it is a form of ulceration that is not quickened, in its period of cure, by the abstinence from mercury, which modern authors have recommended, and among the rest Mr. Evans, whose descriptions, however, are admirable. It is chiefly this species of ulceration which gives rise to so many various and discordant opinions respecting chancre; for the characters of the sores I have before described are strongly marked; so, also, is the elevated ulcer on the skin of the penis, or the outer prepuce, when the ulcerative process has made some progress; but when it is seated within the prepuce, or from thence extends to the glans, discrimination is more difficult. In these latter situations they are more painful; or rather, I should say, more irritable, for pain is hardly the appropriate term. There is one remark made by Mr. Evans, which I must beg to repeat, regarding this sore whereever situated, for it is strictly true. After the ninth day, he observes, they are seldom doubtful; when, by drawing the skin back, and making allowance for the form of the parts, the raised edge and surface cannot escape discovery. It is on the point of treatment that I differ with the gentleman last mentioned, as well as from Mr. Carmichael. I believe that this sore has certain stages to run, as have all ulcers, before they can be healed; but experience teaches me that mercury, administered at proper seasons, under certain restrictions, and with moderation, if it does not facilitate or expedite the cure, *does prevent the secondary consequences:* I speak this with perfect confidence. The modern authors who are hostile to the use of mercury, admit that constitutional affections do follow these sores in a certain proportion of cases; and I as boldly affirm, that mercury, judiciously administered, will prevent this occurrence in by far the majority of instances. Let it be recollected, that of 1400 cases, of all sorts, treated by mercury, it was proved that secondary symptoms only succeeded in 14; and let every military surgeon, who had been accustomed to follow discreetly the mode of cure usually practised twenty years ago, recollect how rare such instances were. I do not mean to assert that you should give mercury in every stage of the disease, or in defiance of constitutional idiosyncracy, or the palpable evidence of its producing mischief to the general health; but there are rare exceptions to a general rule; and although I should be inclined to await the first nine or ten days, until ulceration had become fairly established, and the red margin with elevation, and the peculiar fungoid appearance of the sore had amply developed its character, I should then no longer hesitate in prescribing it in the same mild and gentle manner I have before recommended; keeping my patient tranquil; regulating without too much lowering his diet; and intefering with the sore itself as little as possible. In the early stage it requires only soothing measures; afterwards, the application of the lunar caustic, or the sulphate of copper, to keep down the granulations, is alone sufficient.

I have now attempted a description of all the peculiar forms of ulceration to which the term syphilitic may, in my opinion, be fairly applied; and I now beg to offer a few considerations which the young surgeon should always bear in mind when called to a case of ulceration of the genitals. 1st. He should consider whether the sore is to be classed among those likely to lead to constitutional symptoms. 2d. Whether it is capable of being arranged under either of the distinct heads above described; and, 3d. To which of them it bears the greatest resemblance. 4th. The period of its existence, the previous history, and the *stage* in which it is presented to his view. 5th. The constitution, mode of living, and present state of health, of the patient; and, 6th. Whether mercury has been previously exhibited or not. These inquiries, together with attention to other minute particulars, will enable him to reconcile many contradictions, and to clear up many a doubtful case, since it is obviously impossible to teach the pupil every shade and variation of aspect which ulceration on this or any other part of the body may occasionally assume; and much must always be left in the elucidation of this disease, as well as, indeed, of every other, to the exercise of his own discretion; and the application of those general principles which he has imbibed in the course of his medical education.

I shall now proceed to treat of chancre in the female, of phymosis, and paraphymosis, as occasionally attending syphilitic ulceration, and then take up the subject of bubo.

I have already spoken both of phymosis and paraphymosis as concomitant symptoms of the virulent gonorrhœa; and I now have to say a few words upon these unpleasant appearances when they are met with in conjunction with syphilitic ulceration. Both phymosis and paraphymosis only occur in those persons who have the prepuce very long, so that the glans is always kept covered up; a formation which is congenital, and very troublesome; sometimes, even in infancy; though, I believe, seldom, if ever, requiring an operation for its removal at that period of life. Mr. Hey and M. Roux both observe, that in cancer of the penis, the subjects generally have been found to have a phymosis from the birth; but with this I have nothing to do, and must confine my remarks, therefore, to this condition of the parts when ulceration is supposed to exist underneath. This fact may in general be ascertained by feeling externally all round. There will be tenderness, and often hardness, perceptible at the spot where sores exist. The nature of the discharge also will generally guide your judgment in some degree. If the discharge is acrid, ichorous, thin, and profuse, it is most probably produced from a breach of surface. That which is afforded by the external, or spurious form of gonorrhœa, has more the character of pus; and usually a peculiar faint odour arising from the confined secretions of the mucous glands. The appearance of the prepuce and phymosis is thicker, and more tumid than natural; and any attempt to denude the glans is attended with much pain. If the ulceration has been once seen before the phymosis takes place, our treatment of the sore will be more easy; but if not, we must recollect that inflammation is the great universal cause of this appearance; and, therefore, both locally and generally, our object must be to soothe, and not to irritate the parts. I therefore am unfriendly to the administration of mercury in the first instance, or to the injection of any stimulating wash, unless there is good ground for believing that no breach of surface exists; but I would recommend the external application of the saturnine lotion. An injection of the same, frequently, between the prepuce and glans; or, perhaps, the application of leeches, not to the prepuce itself, but to the body of the penis, or the perinæum, or even general bleeding, may be occasionally necessary. The penis, in this condition, must not be permitted to hang down; and the patient should be enjoined absolute rest, and the horizontal posture. If inflammation runs very high I have often found warm applications and poultices more serviceable than cold ones; but the frequent injection of the inner surface of the prepuce, with some mild fluid, must never be omitted. The penis may also be fomented by holding it over the steam of hot vinegar and water.

With regard to the operation proposed for this affection, I am inclined to think it seldom necessary; and I should restrict it to those cases wherein the pain and tumefaction are very great, and the ulcerations within are of that highly inflammatory character leading to the gangrenous sore. Here I think it better at once to relieve the parts by slitting the prepuce open, provided the general treatment proves unavailing in arresting the progress of the disease, than to wait for its destruction by the process of mortification; first, because by a timely operation the loss of parts may be prevented, and the ulcerations can receive then the immediate benefit of whatever local application may be thought necessary for them. The mode of performing this operation is very simple; a grooved director may be passed along the upper surface of the prepuce, and the part divided from within outwards with a sharp pointed bistoury. But I must again repeat that this operation should not be had recourse to except under the above named circumstances; for it often has happened, that when adopted in cases of chronic ulcers, the divided edges of the prepuce have put on the same appearance as those ulcers, and the cure, instead of being hastened, has been much delayed. By mild treatment, then, by purging, by rest, by diet, &c. the phymosis will commonly yield in a few days; and when the glans is denuded, your conduct will of course be regulated by the appearance and character of the sore or sores you have to deal with. But let the patient be warned, whilst the prepuce is in this condition, just, perhaps, permitting the glans to be uncovered, with some difficulty, that he does not allow it to remain behind the glans for any length of time; for in that case he will most probably have to lament his negligence by the formation of a paraphymosis; therefore, as soon as the sores have been seen, or dressed, let the prepuce be quickly returned to its natural situation. Phymosis sometimes makes its appearance at another stage of the disease; that is, when sores have existed for some time, and are apparently healing. In this state small pimples are occasionally formed round the extremity of the prepuce, which breaking, soon increase in size, and form small ulcers, with a good deal of thickening about them; totally preventing the glans from being uncovered. It is in this chronic condition of the parts that stimulating applications become necessary. These small secondary ulcerations may be freely touched with the lunar caustic, or sulphate of copper. Stimulating injections, thrown up between the prepuce and glans, are highly beneficial also in this condition of the parts. Of these, the lotio flava, formed of oxymuriate of mercury and lime water, is one of the best; or the oxymuriate, with water only, may be used, in the proportion of two grains to eight ounces of water; or, perhaps, even stronger. And if mercury has been employed, it must be immediately omitted; though I have occasionally found great benefit from the fumigation of the part with the re-sulphuret of mercury: the quantity of this substance to be employed is from half a drachm to a drachm, the penis being enveloped in linen, so as to prevent the escape of the vapour.

In whatever way this chronic form of phymosis is treated, it will occasionally give great trouble, and prove very obstinate; and cases occur where the extremity of the prepuce forms a hard ring, almost shutting in the glans entirely, and sometimes even obscuring the orifice of the urethra. In this state the operation of circumcision has been recommended; which is performed by drawing the skin forwards, and cutting a circular portion off with one sweep of the knife, taking care not to carry the incision so far as to divide the frænum. Sometimes a considerable hemorrhage follows this incision, but which is more troublesome than dangerous. The part should afterwards be dressed with dry lint, and poulticed. It must be observed, however, that the necessity for performing this operation seldom exists.

In every mode of treating a phymosis, however, it must be recollected that it is only an effect of some other symptom; and that, therefore, above all things, we are not rashly to have recourse to mercury, which in the event of inflammation being present, must inevitably do mischief, a remark which Mr. Travers has put in a very strong point of view; neither can that medicine be attended with any beneficial effects in many cases where there is no inflammation, for example, in the cases of warts, which is a very common cause of phymosis, and for which we now do not think mercury necessary, although a complete mercurial course was recommended for their removal as late as in the work of John Howard. We are told that care must be taken when a phymosis exists in conjunction with sores on the internal prepuce aud glans, that when they are healing they do not form adhesions; certainly such an event is possible when the ulcered surfaces are exactly in apposition to each other, and when they are both in the same condition, or are healing *pari passu;* but these circumstances are not usually met with; and the frequent use of injection between the parts, with an occasional movement of the prepuce, will effectually prevent the possibility of such an occurrence. The points, therefore, to attend to, and the principal inquiries to make when called upon to treat a phymosis, are these: how long it has existed; whether it is connected with gonorrhœa solely, or with ulcerations within the prepuce, or merely arising from want of cleanliness, or the existence of warts; whether it is accompanied with pain and inflammation, or simply in a chronic indolent form; and, lastly, what must never be omitted when we are consulted on any symptom connected with syphilis, whether mercury has been exhibited or not; and especially whether the appearance came on during or after its use, or existed previously. These few inquiries will generally enable you to adapt your treatment to the peculiar circumstances of the case before you; for though every enlargement and elongation of the prepuce is called a phymosis, it is evident that the same precise line of practice is not equally applicable to them all; and this remark, though a very simple one, is not the less necessary to attend to, for no small quantity of mischief has occurred by calling many dissimilar conditions by the same name.

Respecting paraphymosis, as an attendant upon syphilitic ulceration, I have nothing to say in addition to that which I have already urged when speaking of it in connexion with gonorrhœa. The prepuce may most commonly be returned by the hand, cold lotions being first applied to the glans, in order to contract the part as much as possible, taking care to squeeze the blood from this part whilst the prepuce is drawn forward. If success cannot be obtained in this manner, an operation will be requisite; which consists in separating, as much as possible, the swollen portions of the prepuce, and cutting through the strictured band by which the glans is compressed, and, as it were, strangled; but I am quite convinced that this will be seldom necessary, unless the patient has neglected his situation for some considerable time. If applied to within the first twenty-four hours I should not despair of relieving the paraphymosis by the means above detailed.

It will not be necessary to detain you any length of time in the description of primary ulceration in the female sex. The more simple construction of the parts of generation; the general tenor of their mode of living; and their being less susceptible of inflammation, render these sores, under common circumstances, of comparatively little consequence. It sometimes, however, happens that sloughing, or gangrene, take place to the extent of even destroying the external labia; and phagedena, especially, is by no means an uncommon consequence of an ill conducted, or profusely administered course of mercury; as well as sometimes produced without mercury, in those broken down constitutions which poverty, and the pernicious habit of dram drinking, too often lay the foundation for in that unhappy class of females who exist by prostitution; but of phagedena it is my intention to treat at length when considering the diseases arising from mercury. What I have before said relative to the treatment of the different forms of syphilitic ulceration in the male sex, equally applies to the female. The situation of these ulcers is either upon the external or internal surface of the labia; upon the nymphæ, the clitoris, and its prepuce, or the raphe, and the lower part of the vestibulum. When ulcers are situated externally on the labia they generally put on the form of the ulcus elevatum, and are covered by a scab. It may no doubt occasionally happen that a sore may be situated within the vagina, or even on the os uteri; and it appears to me that many cases of infection, otherwise very difficult to explain, may be readily understood to arise from this cause; for as there is but little pain or sensibility attending these sores in the majority of instances, and as the discharge is often but trifling, and the parts themselves are so moist, and discharges are so frequently met with even in women otherwise healthy, it is by no means improbable that a small ulcer within the vagina might occasionally be productive of much mischief, both to the patient herself and others who have connexion with her; and in my opinion this is a much more rational mode of explaining the appearance of constitutional symptoms unpreceded by visible primary sores, (I mean where gonorrhœa also is not found to be present, for in that case we do not want the assistance of ulceration to account for their presence,) than by the doctrine of silent absorption, as it has been called; or the still more improbable explanation of the communication of the disease by a sound person sleeping with a diseased one, an instance of which is related by Swediaur. But whoever will attentively peruse this, and similar cases, will, I conceive, easily see through their fallacy, and form other conclusions, more consistent with reason. Formerly, indeed, the supposition I have ventured to make was attended with a difficulty which we have not now to contend with, for it was believed that a syphilitic ulcer could not get well without mercury: and even Mr. Pearson, in his lectures, made this a criterion by which to judge of its nature; but now we are convinced that this is not the case, there is nothing that should prevent our supposing that a primary ulcer may have existed some way within the vagina, so as not to be detected, but by an especial examination, and that this may have given rise to all the subsequent mischief. In the female a plurality of ulcers is more common than in the male sex, and their character is most frequently that of a small ulceration tending to the circular form, having, in the commencement, rather an ash-coloured apthous appearance, and seldom increasing to any great size, though often surrounded with the true inflamed and thickened margin. These sores usually take a considerable space of time to heal, and especially if situated at the lower part of the vestibulum, or about the raphe of the perineum; for there the urine interferes with them very much. As women are very prone to the formation of bubo, it will be necessary to recommend to them repose; and the situation of the sores renders this the more desirable, as applications cannot otherwise be conveniently retained. When the sores are in an uninflamed state, the black wash, or Bates' camphorated water, form the best local remedies, for ointments are scarcely capable of being retained in their situations from the lubricity of the parts.

The next primary symptom of syphilis which will engage our attention is a bubo. This has been asserted by many writers to have been first noticed as late as the year 1540, or thereabouts; but this is a mere error, and one, indeed, that can hardly require us to look out for authorities to confute; for unless the nature of the animal economy has changed, it is absolutely impossible that ulcerations could have existed on the penis at any period of the history of the world without sometimes giving rise to inflammation of the inguinal glands; and, accordingly, we find mention made of these appearances in most of the ancient authors; and all we can suppose them to mean, by restricting their origin to a particular period of the sixteenth century, is, that then they first began to be looked upon as direct syphilitic symptoms, even when met with unaccompanied by breach of surface. A syphilitic bubo has been supposed to be of a peculiar character, and easily recognisable by the hand and eye: and so indeed, with many restrictions, it may be admitted to be. It is generally an equal circumscribed swelling of one or more of the glands of one or both of the groins, attended at first with little more than a stiffness of the parts, and some slight uneasiness on taking exercise. Some authors have affirmed that the venereal bubo differs from other glandular enlargements in only affecting one gland: but this is far from being universally the case, especially in those patients of strumous habits, where any irritation will often produce enlargement of the whole chain of glands. A bubo most commonly affects only one side: though this also is far from a general rule—and it more frequently follows ulceration of the internal prepuce, or corona glandis, than those of the skin of the penis, or glans itself. The side affected is generally that nearest the sore, but there are many exceptions to this; it sometimes happens that the femoral glands are the seat of this affection—though this is more common in the case of what is called the sympathetic bubo accompanying a gonorrhœa. Syphilitic buboes are confined to the first order of glands; and it must be understood that they may be met with in the axilla, though, for obvious reasons, the groins are the most usual seat of this symptom. Mr. Hunter says he once saw one of the submaxillary glands enlarged in consequence of a chancre on the lip; whilst Mr. Pearson remarks that, excepting in the groins or axillæ, he never knew an instance of the occurrence of bubo. I should be inclined to believe that their rare occurrence, excepting in the situations above mentioned, is solely owing to the infrequency of syphilitic ulceration in any other part. The venereal bubo is the consequence of the absorption of the syphilitic virus; though it is by no means necessary that these glands should enlarge, or suppurate, since the constitution frequently becomes affected where no bubo has previously existed. They do not often follow the gangrenous ulcer, and, generally speaking, arise in those cases where the progress of the sore is but slow, and certainly have no reference whatever to its size, independently of any other distinctive characteristic mark. Authors detail the histories of patients in whom bubo has been the sole primary symptom, though they acknowledge that these cases are but rare, and that often a very minute examination will detect some slight breach of surface. These primary buboes have been said occasionally to have been followed by secondary symptoms. I will not deny that such an occurrence may take place, but I am convinced that the majority of these enlargements of the inguinal glands, unaccompanied with breach of surface, are totally independent of syphilitic infection; and I should be extremely loath to employ mercury for their cure, because I have uniformly observed them to take place in persons of diseased habit, and in a vascillating state of health; and especially in those constitutions more usually denominated strumous, where any trivial cause will excite irritation in the glandular system, and where mercury, hastily and improvidently administered, gives rise to the most serious evils. I can well recollect the period when all enlarged glands in the groin were doomed to a mercurial treatment, however energetically the patient might declare the impossibility of their originating from the virus of syphilis; and I have lately had so many opportunities of putting the opposite practice to the test of experience, without having met with any cause to repent my so doing, that I should certainly not now think of administering a course of mercurial medicine merely for a bubo. The cases related by authors, in support of the old doctrine, are liable to so many objections, and repeated from one to another without any attempt to examine into their probability, that they cannot, or ought not, now to influence our practice on a point so pregnant with danger to our patients. One observation made by Mr. Hunter, bearing upon this subject, is of some importance. He says, that if buboes, as solitary symptoms, are not the product of venereal absorption, they are generally preceded by fever, and slower in their progress to suppuration than when the contrary is the case. There is some truth in this; but I fear that this ground of distinction is not sufficiently firm to bear us out in our diagnosis upon many occasions, and I therefore must repeat that I should certainly not use mercury in these cases, unless the history was very distinct, and the patient would not be contented without it.

One caution, however, I wish to impress upon your minds, which is this—never prescribe for a bubo as a solitary symptom, whatever rank of life your patient may be in, without examining the penis, if a male, or the pudenda in the female, if you can possibly avoid it; for patients, under these circumstances, will occasionally trick you if they can, even though it be at the expense of their own health. To obtain the information you require, it may be necessary to use a little tact, or finesse; but it is well bestowed, for the patient will think the more of you—and though he has, perhaps, done all in his power to deceive you, will very likely throw the blame of after consequences upon you if you fail to make the proper examination.

Although the absorbed gland is the central point of irritation, the cellular membrane surrounding it is the seat of suppuration, and when the matter is evacuated, the gland, in an enlarged condition, is usually found in the centre of the abscess. This remark applies generally to all buboes, but they are distinctly divisible into three kinds—those which inflame and suppurate rapidly, those of a more indolent character, and, lastly, those which may be denominated truly scrofulous; and each of these forms of bubo requires a different mode of practice. You will find Mr. Hunter, Swediaur, and other modern writers, relying very much upon the powers of mercury in dispersing these tumours, but their theory is repeatedly belied by the detail of their cases; and whoever begins to practise with this expectation will be grievously disappointed. That mercurial inunction, employed early on the appearance of the primary ulceration, as well as of the bubo, will frequently prevent it from proceeding in its course, I believe to be true; but it is a truth liable to numerous exceptions even in that state of the disease. But when inflammation has once been denoted by the more general diffusion of the swelling, and the presence of absolute pain, I have as often found mercury increase the irritation and hasten their maturation. Professor Assalini's observations confirm this opinion. Some practitioners are fond of applying leeches and evaporating lotions to a bubo: for my own part, I question the propriety of so doing, and I am quite sure that it is commonly useless (I speak of bubo in connexion with some form of primary sore;) and this is no more than might be expected, for how are we to get rid of a glandular enlargement and tendency to the formation of matter, depending upon the irritation of, and absorption from an ulcer, which ulcer is still continuing to produce both those effects? This is contrary to reason, and, I will venture to assert, will not succeed in the vast majority of instances; nay, I have sometimes thought that the irritation of the leeches has actually hastened the progress of the bubo, and I have over and over again seen them applied in vain in private practice. This is a serious evil, for the operation is tedious and troublesome; and a failure in our object is generally productive of great disappointment to the patient. That species of bubo which proceeds rapidly to suppuration is usually found in connexion with a robust state of health, and is more easily overcome than either of the other forms of this affection. There is no occasion, under these circumstances, absolutely to withhold the exhibition of mercury, provided the condition of the ulceration demands its employment; and the best method of treating the bubo is by fomentation and poultice, with absolute rest, in the same way as you would treat abscess in any other part. The matter should be discharged early, as soon as it is fairly formed, before the skin becomes too much inflamed or disorganized; and a free opening with a lancet is, in this case, to be preferred either to permitting it to burst spontaneously, but more especially to the application of the caustic. Little else but a continuance of poultices will be requisite until the ulcer heals, and the extent of the mercurial course need not be influenced by the occurrence of this symptom: when you are satisfied with the healing of the primary sore, and the healthy state of the cicatrix, the circumstance of the glandular suppuration would not induce me to continue its exhibition one day longer. The chronic or indolent bubo requires much more circumspection in all respects, but more particularly as far as regards mercurial treatment, than the inflammatory or phlegmonous bubo: in these cases the swelling is often more diffused and larger than in the simple inflammatory bubo; the surgeon and patient are often flattered by a promise of the dispersion of the swelling, which again resumes its progress; the skin becomes discoloured slowly, but to a considerable extent; the colour is not the bright scarlet of the former description of swelling, but of a dull deep red; the fluctuation of matter becomes perceptible only by slow degrees; and this indolent condition will often remain for many days, and will require generally the interference of the surgeon, for if permitted to break, the skin having become extensively diseased will commonly ulcerate largely, or sometimes even slough extensively, giving rise to a sore formidable for its size, often taking on the true phagedenic character, and healing with the utmost difficulty. I have known fifteen months consumed in endeavouring to cicatrize a sore in this condition. The causes of this particular kind of suppuration are to be sought for either in the peculiar habit of body of the patient or in the wrong action of mercury on the system: whenever, therefore, in the progress of a venereal ulceration, which you are treating by mercury, a bubo occurs answering to the above description, unattended with much pain, making but little progress from day to day, but at length showing a disposition to suppurate, with much diseased skin, it is more than probable that mercury has either been pushed too far or has excited its own specific fever. Whenever you perceive this condition of the gland, inquire minutely into the patient's general state of health: he will probably say he is very well, but when closely questioned you will find that the sleep is not sound, there is headach, an irritable pulse, occasional slight chills and heats, so trifling as perhaps not to have excited his attention at first, but which are evidence that should induce you to change your line of practice at once;—abstain from mercury, give light tonics, with the nitric or sulphuric acids, let the patient take passive exercise in the open air, if his local disease will permit him so to do, or let him go if possible into the country.

The bubo, in all probability, will require to be opened, for the matter has rather a disposition to spread and burrow under the skin than to come fairly to the surface; and as the skin is usually in a state of disease, and can scarcely be expected to recover, it is better, I think, to make an opening by destroying a portion of it with the caustic potash. This should be done at once with the hand, not in the usual way, by putting it upon the part and suffering it to remain there, since the opening should not be made large, nor should it be permitted to extend in depth below the skin. It appears to me that the stimulus of the caustic often operates beneficially on the enlarged glands themselves, and that they rapidly lessen when treated in this manner. These are the cases which lead to such deplorable consequences when mercury is pushed in defiance to all the dictates of common sense, where ulceration extends rapidly, and is mistaken for the continued effect of the syphilitic virus; and at length the patient falls a victim either to the extent of the discharge or some consecutive hemorrhage of the larger blood-vessels of the part; and never, therefore, forget to pause in the exhibition of that mineral when you find the skin giving way, ulceration spreading rapidly, and the health declining from hour to hour. This is a condition that I have witnessed too often, especially in public institutions, where numbers are crowded together, and where, if an ulcer becomes phagedenic, it requires a long time, and much perseverance in the employment of both proper medicine and diet, to alter this obstinate condition of the parts. The treatment of these tremendous sores, when they have assumed the phagedenic character, will be considered in another place.

The third description of bubo which I have to describe is the scrofulous: it is rather an enlargement of the whole chain, or at least of several of the inguinal glands; these proceed to imperfect suppuration, as scrofulous enlargements in other parts are wont to do, and demand much attention and nicety of discrimination in practice. Here the primary sore (for you will understand that I speak of these buboes always in connexion with primary sore) may require a mercurial treatment, perhaps; but if this condition of the glands exist, a full and free course of mercury is inadmissible. Here we must preserve, if possible, the tone of the system; and mercury, though it ought to be exhibited, perhaps, for the purpose of averting constitutional affections, must be prescribed *alteratively* only; the sarsaparilla should be given with it daily, in the form of decoction, to the amount of a pint in the day; passive exercise must be prescribed, and the local application of blisters will often be productive of much good. If suppuration take place, it often shows itself in two or three small spots on the summit of as many enlarged glands, and I have found it generally the best method to puncture these simply with a lancet. They seldom ulcerate under this mode of treatment, and generally heal well, though very tediously, under the use of the common poultice. Occasionally, when indurations remain, the mercurial plaster will succeed in removing it entirely. When, after a bubo has either broken spontaneously or has been opened, sinuses form, a very troublesome, but by no means an uncommon event, it is the quickest and best method to lay them open at once; any other mode of managing them is productive of so much waste of time, and after all so commonly unsuccessful, that there can be no hesitation as to the propriety of so doing; and unless there be much diseased skin connected with them, the knife is the readiest and even the least painful mode of proceeding. When a bubo has been fairly opened, and the portion of skin devoted to destruction has ulcerated away, there is little difficulty, in general, in healing the part: to keep down exuberant granulations, and to touch the edges with the lunar caustic, is all that will be required. The Bates' camphorated water, the ointment of red precipitate, or that composed of the oxyde of zinc, form excellent applications to the part, and will generally lead, in the space of three or four weeks, to the cicatrization of the sore. But, after all, a bubo that has suppurated is a very formidable symptom, for it takes a long period to go through its different stages, and the patient generally counts the days with great anxiety; however, it must be your business previously to acquaint him with the very tedious nature of the complaint, and not to promise him too speedy an escape from his troubles, even when suppuration is established, for the subsequent progress of the sore is very uncertain and capricious. In every case where mercury has been or is exhibiting for the cure of the primary ulcerations, and the system is under its influence, and the bubo, after it has suppurated, begins to spread or to ulcerate rapidly, do not, upon any consideration, attempt to pursue the exhibition of that medicine: your only hope of remedying this condition of the system is by the administration of sarsaparilla, or by other tonics; by good air and passive exercise, a residence perhaps at the sea-side, and such local means as the apparent condition of the bubo shall demand. If irritable, with a thin and profuse discharge, the hemlock poultice will often be productive of much good. A weak solution of nitrous acid will sometimes produce a healthy condition of the parts, but ointments are seldom advisable in this condition of a sore, however compounded; the greasy nature of the application appears to do harm, and whatever is applied had better be in the form of a liquid, covered by poultice. I shall have much more to say upon this subject when I come to treat of phagedena.

Another local affection, if not exactly a primary one at least the consequence of them, is the formation of warts. These were wont formerly to be called venereal warts, and I remember the time when a good solid course of mercury for five or six weeks was always prescribed for their cure. The appearance of warts is very various; but we can distinctly recognise that kind which the ancients denominated thymus, from its supposed resemblance to the tops of the herb thyme: sometimes this is met with all round the corona glandis, sometimes only growing from the internal prepuce. Warts are, again, occasionally single, with a small slender peduncle or stalk; at others they are like little pyramids, with a broad base; but, in short, their various appearances are almost endless: however, our means of overcoming them are scarcely less so, and almost every practitioner has some favourite application for their destruction. They may be snipped off with scissors, or tied with a fine silk; they may be taken off by caustic, or destroyed by the powder of savine, by the liq. plumbi acetatis undiluted, or by the tinctura ferri muriatis, or by a strong solution of oxymuriate of mercury; but the extent, description, and mode of attachment of these excrescences would be my guide in preferring one or other of these remedies—for example, if the wart is large, with a small neck, I should cut it off with the scissors, and touch the cut surface with the lunar caustic: this will have a double effect—it will stop the bleeding and prevent the growth of the wart, for they are all inclined to sprout again. If the mass was of the fungoid kind, I should, on the contrary, dip a piece of lint in the tinct. ferri muriatis, and lay it upon the part, or sprinkle it with the powder of savine; or if it was circumscribed, but still of a soft nature, perhaps I should prefer including it within a ligature; but whenever the surface from which the warts have grown is extensive, it will be necessary to wash the part for some considerable time afterwards with a strong solution of the sulphate of alumine or zinc, or of the oxymuriate of mercury, which will tend to prevent their reappearance.

Mr. Jesse Foot believes that there is oftentimes a connexion between the formation of warts and a diseased condition of the urethra. I am not quite clear about this, but I have, upon more than one occasion, been inclined to believe that has been the case; and whenever you find them very troublesome, and growing again in spite of all your endeavours to destroy them, it will not be amiss to turn your attention to the state of the urethra.

In connexion with this part of my subject, I must here say a few words relative to those symptoms formerly arranged among secondary syphilitic affections, but which were undoubtedly known to the ancients, who cured them without difficulty, and by much the same means that are recommended by recent authors—I mean by those who have abandoned the old plan of putting their patients through a mercurial course for their destruction. These symptoms are rhagades, or fissures about the anus, fici, condylomata, porri, mariscæ, &c. The former of these appearances would seem to be connected rather with a certain train of cutaneous symptoms wholly unallied to syphilis, and are often met with, according to Mr. Hunter's commentator (Dr. Adams,) in warm climates. Swediaur believes that the fici and condylomata, or mariscæ, have sometimes derived their origin from the indulgence of an unnatural propensity: I fear there is much truth in this observation. I have had two or three opportunities of witnessing these appearances under circumstances of great suspicion; and this was a very general belief among the ancients, as is evident from the writings of Juvenal, Horace, Martial, and Lucretius. Nevertheless I am quite confident that mercury, excepting perhaps as an alterative, is not requisite for the cure of these affections.

The minute distinctions made by authors between the fici, condylomata, thymus, and mariscæ, are not very intelligible to us in these days: they are more or less of the nature of warts, only distinguished by their greater or less degree of softness or hardness, and generally yield a fœtid ichorous discharge. They are to be got rid of by escharotic applications, or by a strong solution of the oxymuriate of mercury, which generally operates upon them a very rapid change. Occasionally, the condyloma and ficus may be cut off with the knife, or included in a ligature. The cure of rhagades will generally be effected by the use of the ung. hydrargyri nitratis, or the red oxyde of mercury. Alterative doses of calomel, in the form of Plummer's pill, together with the decoction of sarsaparilla, may likewise be beneficially exhibited; but I would not recommend the regular mercurial course for the removal of these symptoms, since (though occasionally following syphilitic complaints) they do not appear to be essential symptoms of the disease, but rather proving a peculiar constitutional taint called into action by it; and it is curious to observe how Swediaur struggles between the old doctrine and the belief of their separate origin from syphilis, which experience has shown him—for in one paragraph he observes that they only need local remedies; again, in another, he tells us that, if syphilitic, a thorough mercurial course must be prescribed: but he fails to point out to us any mark by which we are to distinguish one kind from the other, and well he might, for no such distinctions exist.

Even Astruc himself, when describing these symptoms, though no man has a greater confidence in the universal powers of mercury, after recommending a complete course of that medicine, says, if there should be no suspicion of their being the consequences of syphilis, or at least if they be only the consequence of the recent and local action of the virus which has not extended beyond the part, it may be as well to spare the patient the trouble of a course, but still to employ that remedy in a lighter manner, until the symptom is removed. In his account of cristæ, mariscæ, and rhagades, the same vacillating kind of opinion is given, and he observes that, where there is a suspicion of a venereal taint, a full exhibition of mercury must be premised; but this he does not expect to be effectual in removing the symptoms, which he afterwards begins to attack by local remedies, and which are not different from those I have mentioned above—that is to say, in principle at least: for they all turn upon the destruction of the parts by escharotic applications, or by cutting instruments, where the form and situation of the excrescence give that mode of operating a preference. I have now gone through the local symptoms arising from the application of the syphilitic virus to the parts of generation, as well as the first step, as it were, to the contamination of the system—that is, a bubo; and endeavoured to show you the distinctions between the various forms of primary ulceration, together with the general and particular mode of treatment adapted to each. The same distinctions I have also extended to the various forms which glandular enlargements assume under different circumstances in the health and constitution of the patient; but I am well aware that what I have said cannot possibly include all the shades and varieties which may be met with in a long and extensive practice: nevertheless, I hope enough has been said to enable you to notice those points of difference in each case which will guide you in the adoption of a particular line of practice, adapted to the condition of constitution or local disease you have to contend with; and that you will not suppose that every sore, because it may be of a syphilitic character, must be subjected to precisely the same quantity of mercury, to precisely the same local treatment, as you would be too apt to suppose from the perusal of many works upon this disease; and the same remarks also apply still more forcibly, if possible, to the treatment of a bubo, which, from a very trivial and simple symptom, may be converted into a formidable wound—may even implicate the life of the patient, if, under such circumstances as I have attempted to explain, you persist in the use of mercury, or do not moderate its action.

[The above concludes Mr. Bacot's Essays on *Primary* Syphilis. There remain yet a few essays on the *Secondary* form of the disease, which we shall continue in subsequent numbers.—*Ed.*]

From the Edinburgh Medical and Surgical Journal.

OBSERVATIONS ON THE MECHANISM OF THE BILIARY SYSTEM. By Chas. Wilson, M. D., Licentiate of the Royal College of Surgeons, &c., one of the Physicians to the Kelso Dispensary.

The parts which are to be considered as immediately essential to what may be termed the mechanism of the biliary system are, the *tubuli biliferi*, the hepatic duct, the gall-bladder with its duct, and the *ductus communis;* and the questions which arise regarding them are, 1st, by what means the bile is propelled through the various canals? 2d, how is it made to retrograde into the gall-cyst at a certain period of its course? and 3d, by what agency it is again poured forth in considerable quantity, when its presence is required in the duodenum or other intestines, to assist in the process of digestion? Whatever takes place in the liver before the appearance of the bile in the *tubuli* cannot possibly be referred to any principle merely mechanical, and indeed the process is so completely concealed from us, that, in the present state of knowledge, it cannot be explained upon any principle whatever, physiologists having generally chosen to designate it in such terms as may be construed into a tacit confession of ignorance. Of the parts now mentioned, therefore, and the questions proposed with regard to them, the second principally claims attention; and, if I allude to the others, it is only in order that my investigation of the subject may be more complete.

It would be an easy answer to the first question were we to admit with some anatomists, in the structure of the ducts and of the gall-bladder, an inherent muscular power, which performs the office of propelling the contained fluid; but unfortunately the actual inspection of these parts does not give any countenance to such an opinion. Even in the larger animals, the ox for example, where the magnitude of the parts renders their examination a work of comparative facility, I have not been able, upon the most careful dissection, repeated in various ways, and with the aid also of a lens of considerable magnifying powers, to discover any appearance of muscular fibres. Perhaps a careless observer may mistake, for an appearance of this nature, the minute nerves, and the vessels when void of blood, which are ramified between the outer layers of the cellular coat; or still more probably, those slight folds which are seen upon this coat when stretched by the forceps or otherwise, but which are evidently caused by the degree of tension employed, and disappear so soon as the membrane is allowed to regain its proper situation. In this manner certainly may be produced an appearance somewhat similar to what Meckel describes, (Manual of Anatomy, Vol. iii. §2224;—he does not tell us whether from his own immediate observations or not,) as "fibres, for the most part of a whitish colour, running in different directions, in some instances very analogous to those of the muscular coat of the intestines, but which cannot be considered as constituting a distinct layer,"—a description which I have not been able to verify in any other way. Meckel, however, does not seem to wish it to be considered that these fibres, if they truly exist, are in reality possessed of a power distictly muscular; nor has he, or any other anatomist, proved that they possess contractile force, susceptible of being called into action by the application of *stimuli*, in a manner similar to that displayed by other parts of muscular structure; or exhibited this cyst, or the ducts connected with it, in any other than a perfect passive state. I am not aware of any observation or experiment which tends to prove in them a power of diminishing the capacity of their cavities by the agency of any contractile force proper to and inherent in their parietes.

It becomes necessary, therefore, to look for another cause of the motion of the fluid in these vessels; and this perhaps may be found in the conjoined agency of the capillary attraction in the extreme *ramuli*, the various motions of the neighbouring organs, the pulsations of the arteries which accompany the ducts throughout their course, and form with them a remarkable series of *fasciculi;* and above all, of that "*vis a tergo*" which is the unavoidable consequence of the act of secretion itself. It is not understood that the *vis a tergo* here alluded to derives its origin directly from the action of the heart through the hepatic arteries; for the power thus acquired must be supposed to be exhausted in the remote branches of these vessels, which finally dwindle in the *acini* of the liver, as elsewhere, into a minuteness so extreme as to elude inspection. But the very formation of each successive particle of the secreted substance, displacing that which was secreted immediately before it, must give rise to a power perfectly adequate for the purpose required, very little force being demanded for the propulsion of a fluid, which, like the bile, proceeds from a series of smaller vessels into larger.

Admitting the efficacy of these means for maintaining the direct course of the bile in the ducts, we are as far as ever from accounting for its retrograde motion into the gall-cyst,—a part of the physiology of the liver which has not yet been rationally explained, and with regard to which some of the older writers indulged in the gratuitous supposition that no such retrogression actually took place, but that there existed a number of ducts, (hepato-cystic,) forming a direct communication between the liver and gall-bladder, by which the latter received its supply of bile,—a structure which indeed occurs in some of the lower animals, as in the hare, dog, ox, and sheep, and also in fishes, reptiles, and birds, but which has never been observed in man. Winslow mentions (Anat. Vol. ii. p. 164,) that he has observed at the opening of the hepatic duct into the *ductus communis*, a small, loose, and valvular membrane, which he considers may have some influence in directing the course of the bile; but it is difficult to conceive how the presence of such a valve in this particular situation should not rather act as an obstacle to the passage of the bile into the cystic duct. It was probably not in this way, therefore, that Winslow imagined its influence to be exerted, but rather in the direct propulsion of the bile towards the duodenum. It must be in the structure of the *ductis communis* itself, then, that we are to look for the explanation of the fact in question; and I think that we shall here discover an instance of an adaptation of parts to certain purposes, almost as remarkable for simplicity and fitness as that which occurs in any other organ of the human body.

The *ductus communis* is generally about four inches in length, and towards its duodenal extremity assumes a somewhat conical form, contracting itself considerably in diameter as it passes into the gut, where consequently it terminates by an orifice narrower than the body of the canal. Bichat (Anat. Descript. Tome 5me, p. 105,) mentions the existence of a valvular membrane at this orifice, but he does not enter farther into any description of its form; nor does he at all dwell upon the probable nature of the office which it may be calculated to fulfil. Cloquet also, (Dict. de Med. Tome 9me, cap. Foie,) confines himself to merely noticing the existence of a membranous fold in the same situation. The following result of some observations made by myself on this subject, I offer, as furnishing a more satisfactory explanation than any which I have yet seen.

Just at the point where the pancreatic duct joins the *ductus communis*, there may be observed two folds continuous with the orifice of the former;—the one superior, and to the inside, short, and terminating at the orifice of the *ductus communis;* and the other inferior, and on the outside, (more remote, that is to say, from the median line,) longer, and proceeding obliquely round nearly the whole of the gall-duct, and at length terminating also at the orifice of that duct. These folds may be easily demonstrated by means of the blowpipe, and their disposition will be more accurately ascertained if a lens of moderate powers be employed. They have their unattached margin pointed upwards, in a direction opposite to that of the course of the bile, and appear to be composed of a projection of the mucous and cellular coats of the canal. From a careful examination of the parts thus disposed, in different subjects, it appears to me that they are fitted to perform the office of a nearly perfect valve, which, from its peculiar situation between the *ductus communis* and the pancreatic duct, is capable of being, to a certain extent, applied to either, as circumstances may direct; and that its action as a valve is in part regulated, *ex necessitate*, by the condition at any given time of the *vis a tergo* in either duct.

Supposing, for example, what from the experiments as well of the older physiologists, (Diemerbroeck, Anat. Lib. i. p. 129, &c.) as of those of modern date, we have a right to assume that the secretion from both the pancreas and liver is unintermitting, and that we begin to examine its progress at the time when the gall-bladder has just been emptied of its contents, it will result from what we have stated, that, as the pancreas possesses no cyst, its fluid must proceed continually forwards, and will tend to throw the valvular membrane outwards, so as to make it project into the gall-duct; while the bile finding a partial resistance, and its *vis a tergo* being unable to concentrate itself upon this single point, owing to the presence of the gall-cyst, will pass only in small part into the duodenum, the surplus necessarily escaping into the cyst. Here its passage upwards is, on the other hand, favoured by the particular disposition of the inner membrane, which, in the cystic duct, and towards the neck of the cyst, is arranged into folds, presenting their concavity upwards, and acting doubtless upon the contained fluid in a manner certainly less perfect, but somewhat resembling the valves of the venous system; that is to say, less perfect, because they may be supposed to favour slightly the ascent of the bile, without being able to offer any great obstacle to its regurgitating afterwards through the same passage, should a sufficient force be employed in an opposite direction. It will be only after the cyst is full, then, that the whole of the *vis* acting on the orifice will produce a free passage for the bile into the gut; while the valve, from its connexion with the opposite side of the *ductus communis*, can never be thrown so completely towards the orifice of the pancreatic as to obstruct the course of its fluid, even supposing that the change effected at this stage were any thing more than a mere equalization of those powers, by which the fluid is propelled through the orifice of either canal.*

Such seems to me to be the manner in which we are authorized, by the structure of the parts, to account for the regurgitation of the bile into the gall-cyst, in a direction so singularly opposite to its original one in the hepatic duct; but the following simple illustration, which I have had repeated opportunities of verifying, may perhaps tend farther to prove the existence at the orifice of the duct of such a resistance as has been alluded to, independent even of the assistance which we have supposed to be always necessarily afforded by the presence of the pancreatic juice. The gall-bladder and duodenum having been previously emptied of their contents, a tube was passed into the hepatic duct, and pushed some way beyond its point of junction with the cystic, and air was then gently introduced by means of it into the *ductus communis*, when it was found that, while the air escaped only in very small quantity into the duodenum, the gall-bladder was easily and speedily distended, and it was not till its distention was completed that that of the duodenum could be said to have commenced,—thus proving that regurgitation from the duct into the gall-bladder is of more easy accomplishment, even under unfavourable circumstances, than any passage from that duct into the gut.

In the foregoing remarks, I have hitherto purposely avoided alluding to those cases in which the pancreatic and gall-ducts open into the duodenum by separate though contiguous orifices, because such instances are comparatively rare, and because it is probable that the difference of structure consists only in the accretion of the segments of the before described valve, by which means a membranous septum is prolonged for a little way between the two canals, leaving the essential parts of the structure the same, and liable to be influenced by the same causes as in the more common examples.

If the preceding considerations are adequate to account for the regurgitation of the bile into the gall-bladder, it only remains for me to answer the third question proposed, to consider, viz. by what means the cyst becomes again emptied of its contents. This has generally, and I think with justice, (the muscularity of the cyst remaining unestablished,) been attributed to the pressure of the adjoining viscera in their distended state. When the stomach becomes filled with food, and the subsequent distention of the *duodenum* commences, a degree of pressure must necessarily be exercised upon the neighbouring viscera, and, among the rest, upon the gall-bladder, which, from its situation at the upper part, and near the parietes of the abdomen, where the concavity of the ribs and the liver oppose an unyielding surface, is well placed for undergoing the action of any compressing force. By this means an additional power is acquired, and the bile is thus opportunely poured out in considerable quantity just at that moment when its presence becomes necessary in the intestine; the whole of the process affording an instance of a wise yet simple contrivance of nature, by which she modifies the supply afforded according to the necessity and extent of the demand. It is denied by Adelon (Physiol. de l'Homme, Tome 2me,) that these *viscera* are in sufficiently close contact to produce such an effect; but that in the living subject they actually touch one another is, I think, proved by the often remarked yellow tinge which the pyloric extremity of the *duodenum* receives from the bile, and more especially from the circumstance, that adhesions between the gall-bladder even in its ordinary size, and the pylorus, are frequently observed. Surely neither of these effects could be easily produced, unless the parts were placed in the closest contact.

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* The membranous folds not joining so as to form a perfect valve, and this valve opening upwards, are circumstances which render it evident that the passage of certain bodies from the duodenum into the duct cannot be a matter of much difficulty. We have thus some curious instances recorded by Guersent, Laennec, and others, in which intestinal worms (*Ascarides lumbricoides*) have been found within the ducts and gall-bladder, into which they must have passed from the duodenum. It is well known, however, that certain species of worms are sometimes generated in these cavities. In the gall-bladder of an ox, now lying before me, I have met with an example of the genus *Filaria*, measuring fully four inches in length, and of about the thickness of a hog's bristle.

We have, on the other hand, a marked instance of the effect produced by a state of the bowels, opposite to that of repletion, afforded us by the observation, that, in animals which have been destroyed after having fasted for a long time, the gall-bladder and biliary ducts are always found completely gorged with bile. Farther, that the gall-bladder may be emptied by pressure *generally* employed, is demonstrated by an observation of M. Magendie, (Elem. de Physiol. Tome 2me,) who tells us, that, in the act of vomiting, during which, from the very powerful contractions of the diaphragm and abdominal muscles, great compressing force must be employed, the bile is readily expelled from the cyst. "I have often," he says, "found it empty in animals which have perished from the effects of an emetic poison." Bertin assures us also that he has seen ruptures of this cyst produced by the act of vomiting, when excited intentionally for the purpose of removing gall-stones impacted in the duct. I am not in possession of any facts which tend directly to illustrate the part which the structure before described may perform in the pathology of the biliary system; but perhaps it is in lesions of its functions that we are to look for the explanation of some of those morbid appearances which cannot be easily traced to any evident affection of the liver itself, and for which no sufficient cause can be assigned by the discovery after death of structural disease in that viscus. (Marsh, Dublin Hospital Reports, Vol. iii.) Thus, in certain cases of fever, of gastro-enteritic affections, and of what has been termed *peritonitis biliosâ*, &c. we have frequently a jaundiced colour of the skin, giving probable evidence of an absorption of bile, without there being found any appearance, on dissection, of a morbid condition of the gland. But it can readily be conceived that the inflammation of the mucous membrane of the intestines, which constitutes one of these diseases, and is so often an accompaniment of the others, may propagate itself towards the valvular membrane within the orifice of the duct, from which cause may ensue such an engorgement of its tissues, or derangement of its functions, as would be most likely to give rise to a stagnatin of bile in the ducts and cyst, and the consequent absorption of it, or of one or other of its principles, into the general system. I do not refer to those rather rare instances, in which the whole of the duct and cyst have been either primarily or secondarily affected with inflammation, because then of course the morbid state becomes a matter of more easy detection, as in the instances produced by Broussais, Rochoux, Andral, &c. or in the remarkable one given by Frank, (*Interpret. Clinic. Pars* 1*ma*,) where the inflammation was so violent as to lead to gangrene.

A consideration of the preceding principles, should their correctness be admitted, may, I think, be employed also, to explain several other circumstances connected with the pathology of the liver, for which at present improbable or uncertain causes are assigned; but, in the absence of direct proofs, I must abstain from all present allusion to them. I may add, however, by way of conclusion, that we ought probably to look to the particular structure before described, for a reason why gall-stones,* after having passed through the narrower cystic or hepatic canals, should remain sometimes arrested in the common duct. Some authors have chosen to explain this fact, by supposing the existence of spasm of the canal; but this is an assumption which the structure of the parts appears to me not to warrant.

From the London Medical Gazette.

DR. BLUNDELL ON TRANSFUSION.

The work of Mr. Ashwell† has appended to it Dr. Blundell's paper "On the Surgery of the Abdomen," and "Some Remarks on the Operation of Transfusion." The former relates chiefly to extirpation of the uterus and ovaries, a subject on which we have frequently had occasion to express our opinion, while we have made our readers acquainted with the various cases as they occurred. We shall now, therefore, confine ourselves to a *digest* of the most important parts of the second paper, giving the matter as nearly in the author's words as may be consistent with the necessary condensation.

Of the kinds of Blood proper for the operation of Transfusion when performed on the human body.

When the blood of one genus of animals is added, in small quantities, to that of another genus by transfusion, we have reason to believe that no dangerous consequences will ensue. Now, if further experiments should confirm this principle, we may hope to find that the blood of animals may be safely thrown into the human vessels in small quantities daily, for the purposes of nourishment.

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* In a case observed by M. Amussat, and quoted by Ferrus (Dict. de Med. cap. Foie,) the common duct was found obstructed by a large calculus, which had given rise to a dilatation of the gall-bladder, and of all the branches of the hepatic duct, the parietes of which appeared to him to be evidently muscular. I should have noticed this in a former part of these observations, were it only to state, that it cannot be just to admit any attempt to illustrate the structure of a part when sound, by its appearance when in a morbid condition. Besides, it is probable that in this example mere hypertrophy of the mucous tissue was mistaken for an appearance of muscularity.

† A Practical Treatise on Parturition, comprising the attendant circumstances and Diseases of the Pregnant and Puerperal states.

Although, however, the blood of one genus of animals may, perhaps, without fatal consequences, be sparingly mixed with large quantities of the blood of another genus, all the facts which have come to Dr. Blundell's knowledge go to prove that if an animal be drained of the blood in its larger vessels, and replenished with blood derived indifferently from another genus, great danger, and in general death itself, will ensue.

Provided the blood be derived from an animal of the same species with that which receives it, it seems to matter but little whether it be arterial or venous. To ascertain this and other points, Dr. B. performed various experiments, from which he concludes—

1st. That in transfusion venous blood may be successfully used, although, perhaps, arterial blood is preferable.

2dly. That an animal may be saved from the death of hemorrhagy by the transfusion of a much smaller quantity of blood than that which it has lost.

3dly. That the blood of one genus of animals cannot be indifferently substituted, in large quantities, with impunity, for that of another genus; and, therefore, that if an operation be performed upon the human body, human blood only should be employed, until some other blood be found which is equally congenial to the vessels.

In performing transfusion there can be no doubt that blood ought to be transmitted by tubule merely, when this method is practicable; but as we should probably meet with obstructions in operating in this way on the human body, Dr. Blundell made experiments with a view of ascertaining whether blood may not be propelled by a syringe, without becoming unfit for the purposes of life.

The following are the inferences drawn:—

1st. That blood, although it have passed through the syringe, and repeatedly, is still capable of supporting the life and health of the body.

2dly. That although blood which has passed the syringe retain its fitness for the animal purpose, it probably becomes deteriorated by this operation, especially if it lie for a few seconds out of the vessels, and be slightly inspissated in consequence.

3dly. That the deteriorated blood, after it has been thrown into the vessels, undergoes a sanative process, by which it again becomes thoroughly congenial to the functions of the animal; for most of the dogs on which experiments were performed, though languid for some two or three days subsequently to the operation, became very lively and well a few days afterwards.

The mode of transfusion from the arteries of one man to the veins of another is next spoken of; but it is so very seldom that such an operation can be practised, that we omit the details as superfluous, and proceed to

The Transfusion of Venous Blood by means of the Impellor.

In operating with this instrument, the vice of the apparatus is to be very firmly screwed into the back of the chair, at its outside. By means of the stem which projects from its apex, the cup is to be fixed erect in the gripe of the vice, and the large outer cup, containing the impelling part of the instrument, is to be filled with tepid (96°) water, so that the whole of this part of the apparatus, inclusive of the syringe, may be covered in completely by the water. The apparatus being thus far prepared, the inner cup is to be put on, care being taken to fit the tube which projects below from the apex of this inner cup, to the corresponding tube which springs up from the cylinder with which the syringe is connected, and which lies in the bottom of the larger cup; because, if the exact apposition of one tube to the other be neglected, a difficulty may needlessly arise in putting the inner cup into its place, in consequence of the two tubes interfering in an obstructive manner with each other. Some water is then to be poured into the inner cup and pumped briskly through the instrument, so that the air may be expelled thoroughly, the water taking its place; and the extremity of the flexible tube which springs from the instrument is, towards the end of the operation, to be bent down into water contained in a tumbler, the pumping being continued, and this with a view of ascertaining, by the appearance of bubbles, whether there be any fissure at which air enters. The apparatus being thus prepared, the operator with his lancet may lay bare a vein on the fore-arm of the patient, to the extent of an inch at least, taking care to cut down completely through the cellular web, and then make a longitudinal incision at least a line in length, and large enough to allow of the ready entrance of the venous tubule to be introduced to the extent of two or three lines thoroughly, but with the utmost gentleness, with its extremity towards the heart. A ligature should not be used. The tubule should be retained in its place by the finger of the assistant who holds the arm. The orifice of the tubule should not have a cutting edge.

After the apparatus has been fitted together, the person who is to supply the blood takes his seat on the chair, his arm is opened by the lancet as in ordinary venesection, and the blood, instead of being received into a basin in the usual manner, is directed into the cup of the transfusing instrument, and by the play of the syringe impelled direct into the vein of the patient, without being suffered at any time to accumulate largely in the apex of the cup. As the object of the syringe is merely to give impulse, it ought not to be worked by long strokes, but by a short and sharp movement, care being taken that the plug be every time pushed home, so as to bear down upon the nozzle plate, and prevent any accumulation in the barrel of the instrument.

For supplying blood, men are preferable to women, as they bleed more freely and are less liable to faint. If blood can be procured from the arms of two persons at once, it would sometimes perhaps be desirable. Stimuli sufficient to exhilarate and rouse the circulation may be advantageously given to those who are to furnish the blood before the operation is begun.

The minute dexterity required in managing this instrument may be easily acquired by any person who will accustom himself to pump blood, or even water, through it; and those who are frequently performing the operation of venesection must have many opportunities of doing this. Laundy, of St. Thomas's-street, Southwark, now manufactures these instruments.

Of Transfusion by the Syringe.

Should it be found hereafter, by numerous decisive experiments, that human blood may lie in the cup for several seconds, without becoming thereby unfit for the vital purposes, there is yet another mode in which transfusion may be accomplished. In this method of operating a good syringe is required, capable of containing two or three ounces, and furnished with a pipe for the vein (like that used in the former instrument,) about two inches long, and made to fit by plugging, and a semi-rotatory movement, into the nozzle of the syringe.

The blood is to be drawn into a conical vessel (for example a tumbler,) and while flowing into this vessel, held by an assistant, it is to be absorbed into the syringe. When charged, the syringe is to be held with its tubular nozzle upwards, and the piston is to be pushed slowly onward till the blood begins to issue, in order that the air, which, from its greater specific levity, will rise to the upper part of the instrument, may be thoroughly expelled. The syringe, together with the tubule springing from it, now charged with blood only, is to be slid into the vein of the patient, properly laid open for the purpose, and without delay or hurry the blood is to be injected in an equable stream; the operation being repeated as often as the quantity of the blood to be injected may require: the syringe being of a known capacity will measure the blood.

We have given these details that any of our readers may be able to set about the operation methodically, should they have occasion to practise it. The extent to which it is capable of preserving human life we regard as still *sub-judice;* but some very interesting cases have already been published, particularly by Mr. Waller, to whom, as well as to Dr. Blundell, the profession is indebted for the zeal they have displayed in this branch of obstetric surgery.

From the Medico-Chirurgical Review.

INFLUENCE OF THE BRAIN AND NERVOUS SYSTEM IN THE PRODUCTION OF INFLAMMATION. By Dr. Malden, of Worcester.

We have, on many occasions, seized opportunities of opposing the partially fashionable current which certain pathological investigations have lately taken, in respect to the vascular system. The brain and nerves are in danger of being turned out of doors—and we expect soon to find fevers as easily tested by re-agents as oxalic or prussic acid! The nervous system is now voted to have nothing to do with the phenomena of inflammation—and when local inflammation leads to constitutional or visceral disorder, it is not at all through the medium of the brain and nerves, but through the instrumentality of "morbid secretions" contaminating the mass of blood, or by extension of the local inflammation along the veins to the viscus affected. In a very sensible paper recently published by Dr. Malden, in our "MIDLAND" cotemporary, a very different and a much more correct view is taken of these things. We are therefore tempted to extract a passage which, in itself, conveys some just notions of disease, and may lead the reader to peruse the original article.

"The more readily sensorial action follows impressions made upon parts, the more readily will inflammation be produced in them, upon the application of its exciting causes.

"The term pain ought to be employed in pathology, as a generic term, including all uneasy sensations referred to a part. Nerves must be considered as simply impressible. When a part is stimulated by the application of any irritant, mechanical or chemical, the sensorial action follows, and the effect produced by it is slight or severe, according to the nature of the stimulus, the mode of its application, or the state of the sensorium.

"It seems probable that the catenated actions which succeed, and which, in their progress, constitute the different grades of inflammation, are reflex sensorial actions; or the result of a motive impulse, conveyed by the nerves from the sensorium, to the part affected, or its vicinity.

"The two extremes of the arterial system, the heart and the capillaries, agree in the following particulars.

"They are both endowed with a contractility which acts independently of the sensorium, upon the application of stimuli; but they may both be powerfully affected by sensorial action.

"The action of the heart is modified even in health, by every mental emotion; and anger, shame, and other passions, display, beyond all doubt, as marked an influence on the capillaries.

"A temporary change then, in the state of the brain itself, follows the application of a stimulus to a part, which is followed by a reflex motive impulse conveyed by the nerves. This impulse is not confined to the point upon which the impression has been made, but is communicated to the arteries surrounding it, increasing the afflux of blood to them, and by injecting and distending with red globules, minute capillary branches, which before contained only transparent and colourless serum, either renders them distinctly visible, or, where they are numerous and crowded, produces a diffused redness or blush of greater or less extent.

Thus, simple determination of blood, as it has been called, is effected by increasing the quantity contained in a certain set of vessels. —'Ubi irritatio ibi fluxus.'

"*Experiment.*—With the point of a needle, gently scratch or pick the back part of the wrist or hand, two or three times, until a slight smarting sensation be produced; in a few seconds a blush will be observed, (not commencing at the stimulated part, and gradually spreading from it) but commencing in several distinct points for some distance round it at the same time, and progressively blending into one blush. These phenomena are easily observed by the naked eye, but, with the assistance of a magnifying glass of slight power, the demonstration is more conclusive and satisfactory.

"This view of the part the sensorium takes in establishing local determinations in the neighbourhood of a stimulated point, affords the only explanation of the apparently arbitrary manner in which inflammation is occasionally fixed upon seats to which no cognizable stimulus has been previously applied. The same sensorial change which is produced by the application of a stimulus to any remote part, would, if it should occur independently of the application of such a stimulus, have a tendency to communicate the same motive impulse to the vessels in the neighbourhood of the part, as if a stimulus had been there applied.

"That local determinations can take place from sensorial changes only, is proved from the phenomena of blushing as the consequence of mental emotion.

"There is a term employed by medical writers, which, in my opinion, is indicative merely of increased impressibility of the nervous system—*Mobility.*

"Individuals of delicate structure, or who have been debilitated by dissipation, disease, study, sedentary habits, the puerperal state, or other causes, have this *mobility*, and are, therefore, hourly subject to some new combination of symptoms, till the constitution be invigorated, and the mobility consequently lessened. One of the most marked symptoms attending this state of the habit, is a disposition to irregular flushings; the surface of the body becomes suddenly heated in patches, shifting their seat so rapidly and uncertainly, that, while the patient is complaining of the flushing in one part, it will leave it and attack another. In this state of the system, the most trifling causes will excite inflammatory action in a part; and if the mobility, prior to the attack, has been strongly marked, the physician is seldom called upon to afford his assistance under circumstances more unfavourable; for the readiness with which the sensorial changes take place, causes an incessant migration of the inflammatory action from one surface or region to another. Children, after severe attacks of fever, and women in the puerperal state, frequently exhibit this deplorable disposition to shifting inflammation; and, in these cases, the very depletions we use to combat the inflammation, by augmenting the mobility, increase the tendency of the inflammation to attack different parts in succession. It is upon this principle that, in acute rheumatism, if large general bleedings be used at the beginning of the disorder, the inflammatory action shifts more suddenly, and frequently from joint to joint, and even to internal organs, in the progress of the disease, than in those cases where the bleeding has been less profuse."

From the London Medical and Physical Journal.

TREATMENT OF STRICTURES OF THE URETHRA.* By M. DUPUYTREN.

From a Correspondent.

The mode of curing strictures of the urethra by confining a *large* bougie at the anterior part of the obstruction, is still employed with undeviating success in the wards of M. Dupuytren and of M. Breschet at the Hôtel Dieu. The mere contact, accurately preserved for eight or ten days, often enables a catheter of the largest size to pass freely where the smallest bougie could not previously penetrate.

Although the effect would obviously be more speedy by the use of bougies with conoid extremities, capable of being wedged into the stricture, M. Dupuytren is indifferent to this advantage, from the certain fact that, sooner or later, the obstacle will be overcome without. Yet the tapered point would not only act on a larger surface at one time, but be less liable to displacement.

The bougies thus introduced are provided with four very narrow tapes or strings, whereby they are attached to a T bandage, surrounding the waist and under the scrotum. In their passage they are coiled, at equidistant points, round a ring which is placed over the body of the penis.

Where the introduction of a bougie is impeded by spasm anterior to the organic stricture, it is there fixed in the first instance. Thus, in a case of stricture in the membranous part of the urethra, wherein the urine flowed guttatim, the bougie was stopped at the fossa navicularis. It was, therefore, fixed at this part; and at the visit after the expiration of twenty-four hours, it was found to have overcome the obstacle.

The ordinary practice of introducing bougies, gradually increasing in size, on the principle of what M. Dupuytren (as we contend improperly,) calls the *mechanical*, in opposition to the other, which he designates by the term *vital* process, is also employed. In fact, although the confining of a bougie within the urethra may do well in hospital practice, yet circumstances frequently occur wherein this would not be admissible; nor can it be absolutely required, when any one may be taught to cure a stricture by the graduated bougie alone.

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* Vide Journal of Foreign Medecine, Vol. 1, page 52.

The bougies used at the Hôtel Dieu are principally of elastic gum, tapering from one extremity to the other, which is a very considerable improvement: thus a bougie which at one end shall have a sixth of an inch in diameter terminates at the other in a fine point, capable of being worked into the minutest passage. We can scarcely contemplate a case, unattended by spasm, where, with ordinary dexterity, the introduction of such a bougie into the stricture could be impeded; and, in nine cases out of ten of retention, this penetration alone will be sufficient to promote the flow of urine, on the withdrawing of the bougie.

It may be proper to make one remark respecting the modus operandi of the bougie, which M. Dupuytren professes not to understand, as his term *mechanical* implies. There is nothing mechanical or dilatable in the process, according to the ordinary acceptation of these terms. The friction or compression produced by the bougie excites the action of the vessels, which is followed by the absorption of the thickened urethral membranes. Friction and compression operate in the same manner in the resolution of tumours on the external surface of the body.

From the London Medical Gazette.

THE RECURRENT LARYNGEAL NERVE. By Mr. Rainey.

It is now generally admitted as a fact among anatomists, that the distribution of the recurrent laryngeal nerve, in the interior of the larynx, is confined to the following muscles:—the crico-arytenoideus posticus, crico-arytenoideus lateralis, and the thyro-arytenoideus; and that none of its filaments extend to the other muscles of the larynx. Magendie seems to attach considerable interest to the limited distribution of this nerve, asserting that it is entirely restricted to the three muscles above mentioned. Cloquet has made a similar assertion; and Mr. Bell affirms that the termination of the recurrent nerve is exclusively confined to the muscles just named, and to the mucous membrane of the larynx. This opinion having emanated from the most celebrated anatomists upon the continent, and obtained the sanction of those of this country, is now acknowledged as an established fact, and thus taught in the anatomical schools of this metropolis. As in repeated dissections of the human larynx I have uniformly been able to trace a branch to the arytenoideus transversus, and the arytenoidei obliqui, I am obliged to differ from the authorities here adduced, and have thought that it might not be devoid of interest to present to the public a short description of the distribution of the recurrent nerve, as it has always appeared to me upon dissection.

The recurrent laryngeal nerve, after having passed up the neck, between the trachea and œsophagus, and supplied branches to these parts, and also to the inferior portion of the pharynx, enters the larynx between the side of the cricoid and the inferior cornu of the thyroid cartilage, immediately over a strong band of ligament, which connects these cartilages together. In this situation it detaches two or three filaments to the crico-arytenoideus posticus muscle, which ramify in the substance of that muscle, and can be traced to some delicate cellular tissue, interposed between the muscle and the thyroid cartilage. The next branch, about the size of the former, ascends obliquely inwards upon the posterior surface of the cricoid cartilage, where it is covered by the posterior crico-arytenoid muscle; near to the upper edge of that cartilage it sometimes receives a filament of communication from one of the muscular branches just mentioned: it then curves over the cricoid cartilage, close to the inner extremity of the crico-arytenoid articulation, and penetrates into the substance of the transverse and oblique arytenoid muscles, along the fibres of which its filaments can be distinctly traced.

The last nerve then proceeds forwards and upwards between the lateralis muscle and the ala of the thyroid cartilage, detaching, in its course, numerous long and slender filaments to this and to the crico-arytenoideus muscles. Some of their filaments may be seen ascending over the outer side of the arytenoid cartilage, and followed as far as the mucous membrane, where they form communications with the superior laryngeal nerve. Since first noticing the branch of the recurrent going to supply the arytenoideus transversus and obliqui, other anatomists have made the dissection precisely with the same result. This branch appears to be so uniform as to its situation, and constant in its existence, that any one, by moderate care, may dissect it, and convince himself of the fact. It is rather surprising that this branch should have been overlooked, but it is still more so that its presence should have been denied. Considering the imperfect and very limited means we possess of displaying the terminating filaments of a nerve, we must acknowledge it bordering upon assumption to deny the existence of such filaments in the vicinity of the original trunk, or a principal branch: and it must be admitted to be a much more easy and practicable undertaking to discover to what parts the visible filaments of a nerve are distributed, than to determine accurately the limits of their existence.

From the London Medical Gazette.

PATHOLOGICAL ESSAYS ON SOME DISEASES OF THE HEART; *being the Substance of Lectures delivered before the College of Physicians.* By P. Mere

Latham, M.D., Physician to St. Bartholomew's Hospital.

ESSAY IV.

General course of Diseases of the Heart and general character of their Symptoms.

In order to ascertain the nature of healthy structure, the anatomist finds it necessary not only to examine each particular organ of the body, but also to distinguish each into the separate tissues of which it is composed; to examine these tissues apart; and to familiarize himself with the visible characters which constitute their healthy condition. So too, in order to ascertain the nature of morbid structures, he must search and discriminate the traces of disease in all the primitive tissues of the body, separating each from each, and ascribing to every one its own.

Thus, the diseases incident to the different tissues which compose the structure of the heart, have, for the convenience of anatomical description, been hitherto considered apart from each other; the diseases of the pericardium apart from those of the lining membrane, and the diseases of the fleshy substance distinct from both.

The separate knowledge of the diseases of each necessarily precedes the knowledge of the manner in which they are combined together, the order in which they arise, and the relations which they bear to each other.

It sometimes happens that several, or even all the tissues composing the structure of the heart, becomes simultaneously diseased; that while the pericardium is inflamed, and, according to its own mode of morbid action, is depositing lymph in the shape of membranes, and contracting adhesions, the internal lining is also inflamed, and, according to its mode of morbid action, depositing lymph in the shape of warty excrescences; and that at the same time the muscular substance is becoming loose of texture, and the cavities of the heart enlarging themselves. But instances, I believe, are very rare in which disease can be shown to have thus begun, and been continued in several or all the structures of the heart equally and simultaneously.

Again, it sometimes happens that disease will begin exclusively in one structure of the heart, and will be strictly limited to that structure, no other part of the organ undergoing any morbid change whatever in consequence of it. But this, too, is a rare occurrence.

When disease begins, and is continued in all or several of the structures of the heart equally and simultaneously, it is, I suspect, always of a very acute character. The most striking specimen within my knowledge is the following. A boy, twelve years of age, was in perfect health on Saturday night, and dead on Tuesday afternoon at two o'clock. Upon dissection the disease was found in the heart. Four or five ounces of turbid serum, with flakes of coagulable lymph floating in it, were discovered in the pericardium, which had its internal surface covered, in various situations, with a thin layer of reticulated lymph. Thus far there were the evidences of the most intense inflammation of the pericardium at an early stage. There was no adhesion of the opposite surfaces; the lymph and serum were effused together; and the serum had partially washed away the lymph as it was deposited. Further, when the heart itself was divided, the muscular fibres were dark-coloured almost to blackness, loaded with blood, soft and loose of texture, easily separated, and easily torn by the fingers; and upon the cut edges of both ventricles small quantities of dark-coloured pus were seen among the muscular fibres. The internal lining was of a deep red colour, without any effusion of lymph. Here the acute inflammation of the muscular structure was evinced in a manner which is seldom seen; the softening and friability of its texture would have been enough to bespeak it inflamed, but here was an actual deposition of pus. It was a singular specimen of disease; I never saw another like it; and I know of no other like it upon record. (Med. Chir. Trans. Vol. vii. 323.)

When disease begins in one structure of the heart, and never afterwards spreads beyond it, it is generally of a chronic character, and occupies only a small space. A loose cellular adhesion, limited to some small portion of the pericardium, has been found to consist with a perfectly healthy state of the heart; as the same condition of the pleura with a perfectly healthy state of the lungs. So, too, the pericardium has been marbled and streaked with lymph, inherent in its texture, or deposited upon its surface, while the heart has been as free from disease as the liver has been often found to be when the same streaked and marbled condition has belonged to its peritoneal covering.

But it is neither usual for diseases of the heart to begin and be continued in several of its structures equally and simultaneously, nor to begin in one structure, and ever afterwards to be limited to it strictly and exclusively. But the habit of diseases of the heart is, to begin in one structure, and to impart themselves, or an irritation derived from them to other structures, so as directly or indirectly to produce an injury to the organization of the whole. Thus, the heart may be, and generally is, utterly spoiled as an organ whenever any one part of it is permanently diseased. If a portion of lymph be effused upon the pericardium, and there remain and contract a permanent adhesion, or if a spiculum of bone be deposited in one of the valves, there may, and generally does, follow such derangement of structure as will change the natural bulk and capacity of the entire heart, and baffle and perplex, and finally abolish its natural functions. There is no organ of the body in which the perfect soundness of every part is so essential to the health and harmonious action of the whole.

Concerning diseases of the heart, it is especially important to know in what part they begin, and what is the manner, conditions, and rate of their progress from one structure to another. But mere dissection is insufficient to furnish this information. In order to obtain it, it will be necessary to bring the results of clinical observation into comparison with the objects of anatomical research.

I am not going to pursue a minute analysis of symptoms with the pretence of displaying the subject nosologically, but only to appeal to them so far, (and it will be very generally,) as they serve to illustrate the pathological conditions out of which they arise.

Of the signs by which physicians become acquainted with diseases in the living body, some are expressive only of the parts they occupy. The first flow directly from their essence; the second are derived from the disturbed functions and sensations of particular organs. This distinction between essential and accidental symptoms is one of great practical importance.

Essential symptoms bring diseases within the scope of clinical diagnosis, and within the compass of rational treatment. Accidental symptoms only discover where they are, not what they are, or how they are to be treated.

Some diseases have both orders of symptoms most strongly marked. An acute inflammation has its essential symptoms, which are generally the same, in whatever part of the body it is found; general heat and general excitement of the vascular system; and these teach us that it really is an acute inflammation, and how to treat it. Moreover, it has its accidental symptoms, which are different according to the part it occupies, as the brain, the lungs, or the heart; such as palpitation in one case, impeded respiration in another, and disturbance of the senses and the intellect in a third; but these alone teach us nothing concerning the inflammation, and give us no guidance or direction in the treatment of it.

Again, some diseases have no essential symptoms whatever but those only which are accidental, and which appertain entirely to the organs they occupy. A fungous excrescence, or a scrofulous tubercle, being situated in the brain, may be accompanied by a pain in the head, an hebetude of the senses and intellect, and an impaired exercise of the voluntary muscles; but the same symptoms have arisen from tumours of other kinds, and even from the lodgement of a foreign body, such as a musket ball, in the same situation. They have nothing to do with the essence of the tumour in question, and profit us nothing in suggesting any method of cure.

There is, in fact, no diagnosis of such diseases, and no rational treatment; and simply for this reason, because they have no essential symptoms.

The symptoms which flow from the essence of the disease are present with its very beginning, and accompany the whole process of its formation; whereas the symptoms which are accidental to it do not appear until it is already formed, and often not until it has endured for a considerable period; and reached a considerable magnitude. Further, it may be stated generally, that essential symptoms belong more especially to acute diseases, and that diseases, in proportion as they are more chronic and of (what is called) a specific character, are apt to lie concealed under symptoms which are derived less from their own nature than from the parts they occupy.

With respect, then, to diseases of the heart, as far as they are declared by essential symptoms, we have an early intimation of their existence, a knowledge of their real nature, and a guidance in the administration of remedies for their cure; but as far as they are suggested by accidental symptoms only, our knowledge is not of their nature but of their effects; and our treatment is not directed to their cure, but to the palliation of inconveniences which are consequent upon them.

Now diseases of the heart are found to fall under one or the other of these predicaments, according to the particular structures which they occupy. Between diseases of the pericardium and of the internal lining there is this remarkable difference, that the former are for the most part of an acute, the latter of a chronic character; and this essential difference in their nature determines the difference in the degree of knowledge we have concerning them. As morbid anatomists, we can see and describe the visible characters of both with equal precision; but as physicians, seeking to mark the period of their origin, and to measure the rate of their progress, as the indispensable conditions of adapting a remedy to their cure,—as physicians, we know but little concerning the diseases of the internal lining, while we know much that is certain and useful concerning diseases of the pericardium.

Diseases of the pericardium, by virtue of symptoms which are essential, and derived from their own nature—of symptoms which are present with their beginning, and accompany the act of their formation—do often (I will not say always) submit themselves with tolerable certainty to clinical diagnosis, and to medical treatment with tolerable success. They often bring (I will not say always) the knowledge of their existence within the period which includes the possibility of their cure.

But diseases of the internal lining having no symptoms arising out of themselves in the process of their formation, admit no diagnosis of their kind, and no rational treatment.

The time of their accession, and every stage of their further progress, are alike unknown; and the notice of their existence is only at length supplied by the evidences of new changes of structure in the heart itself, and new disorders in the constitution at large, when both the original and all the consequent diseases are absolutely incurable.

Diseases of the heart, how complex soever and extensive they may be, have often their original seat either in the pericardium or in the internal lining. If in the former, their history is capable of being traced from their commencement, and pursued throughout their course regularly and connectedly; if in the latter, their history must be taken up at a period remote from their origin, and will always be most doubtfully and imperfectly made out.

From the Glasgow Medical Journal.

ON THE UTILITY OF SULPHATE OF QUINA IN STRUMOUS OPHTHALMIA; WITH CASES.

By William Mackenzie, Andersonian Professor of Anatomy and Surgery, and One of the Surgeons to the Glasgow Eye Infirmary.

This disease is commonly attended by great restlessness during the night, terminating in profuse perspiration. The skin is, in general, pale and relaxed, the abdomen tumid from muscular weakness, and the excretions from the bowels unnatural. The local symptoms are extremely peculiar, especially the excessive intolerance of light, profuse epiphora when the eyelids are forced asunder, fascicular redness of the conjunctiva, and formation of minute pustules or phlyctenulæ on the cornea, too frequently ending in ulcers and indelible specks.

I need not here insist on the utility of local blood-letting, by leeches, and scarification of the palpebral conjunctiva; of purgatives; and of tonics, in the treatment of this tedious and distressing disease. My object is solely to recommend, and that in the most earnest manner, the employment of the sulphate of quina in this complaint. After many years' experience in the treatment of strumous ophthalmia, and a trial of numerous and various internal remedies, I have found none so useful as quina. In most instances, its effects have been very remarkable; and, indeed, although I have met with a few cases which appeared to resist its beneficial influence, in most of the little patients to whom I have administered it, it has acted like a charm.

I do not trust to the quina alone; nor do I, in general, begin the use of it till the stomach has been cleared by an emetic, and the bowels put to rights by repeated doses of calomel and rhubarb, or some other such purgative. I continue to leech and scarify, and to use such local applications as the vinum opii, or nitras argenti solution, exactly as I used to do before I became acquainted with the powers of the sulphas quinæ over the constitutional disorder which attends strumous ophthalmia, and thereby over the local complaint.

The dose which I employ is generally one grain thrice a-day, rubbed up with a little sugar; in very young children, half a grain; and in adolescents or adults, two grains.

Cinchona is not a new remedy in strumous ophthalmia. Dr. Fothergill recommended it many years ago, in very strong terms;[*] but its powers, in the form of powdered bark, or in any other form in which I have tried it, are insignificant in comparison to those of the sulphate of quina.

I shall add a few cases from the Journals of the Eye Infirmary, illustrative of the effects of this most valuable addition to ophthalmic, as well as to general, medicine.

Case I. 4th July, 1828. Elizabeth Rodgers, aged 6. Conjunctivitis strumosa of four weeks' standing, consequent to measles, and affecting chiefly the left eye.

℞ Tartr. Antimonii gr. iv. Aquæ ℥vi. Solve. Detur pro emetico, more solito.[†]—Instill. gtt. solutionis Nitratis Argenti.[‡]—Utatur Collyro Muriatis Hydrargyri.[§]

7th. ℞ Sulphatis Quinæ gr. vi. Sacch. Albi ʒss. M. et divide in pulveres xii. Capiat. i. ter. indies.

21st. Eyes rather more tender, but till today they were improving. ℞ Subm. Hydr. gr. i. Pulv. Jalap, gr. viii. M. Cap. q. p.—Omitt. Pulv. Quinæ hodie.

28th. Much improved.

10th August. Still improves.—Contin. Quina et alia.

1st Sept. All but well.

29th. Dismissed cured.

Case II. 23d July, 1828. Jane Thomson, aged 9. Ophthalmia strumosa of the right eye, of fourteen days' standing. A deep ulcer near the centre of the cornea, surrounded by a broad effusion of lymph. An onyx at the lower edge of the cornea. Much reduced in general health by bleeding, purging, and blistering. Affected with night sweats.

℞ Sulph. Quinæ gr. xii. Sacch Albi ʒss. M. Divide in pulveres xii. Cap. i. indies.—Instill. gtt. Sol. Argent. Nitr.—Collyr. Mur. Hydr.

24th. Onyx all but gone.

27th. Ulcer contracted.

29th. Bowel complaint. ℞ Subm. Hydr. gr. iv. Opii, gr. ss. M. Divide in pulv. ii. Cap. i. hora somni.

6th August. Eye continues to improve. Cont. Quina et alia.

16th September. Eye strong. Ulcer has been cicatrized for some time, and the leucoma grows thinner. ℞ Sulph. Quinæ gr. vi. Sacch. Albi ʒss. M. Divide in pulveres xii. Cap. i. ter indies.[‖]

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[*] Medical Observations and Inquiries, vol. i. p. 303. London, 1763. Also, Dr. Fordyce, in same vol. p. 192. Dr. Fothergill used a decoction of the powdered bark, with liquorice root.

[†] A tablespoonful every three minutes, till free vomiting is induced.

[‡] 4 grains to 1 oz. of distilled water.

[§] 1 grain to 8 oz. of water.

[‖] In all probability the cornea would have been penetrated, if the depletory system had been persisted in, which this patient was undergoing before she came to the Eye Infirmary.

Case III. 25th July, 1828. James Walker, aged 7. Ophthalmia strumosa of the right eye, of five weeks' standing. Conjunctiva much inflamed. A pustule, the top of which is ulcerated, at the lower part of the cornea.

Emeticum Tartr. Antimonii, more solito.—Instill. gtt. Sol. Argent. Nitr.—Collyr. Mur. Hydr.

27th. Vesicatorium pone aurem dextram.

30th. Hirudines vi. ad tempus dextrum.

31st. Repetatur vesicatorium.

2d August. Improvement slow.—℞ Sulph. Quinæ gr. vi. Sacch. Albi ʒss. M. Divide in pulv. xii. Cap. i. ter indies.

10th. Considerable improvement since last report.

18th. Ulcer cicatrized, and eye strong.

27th. Omitt. Pulveres.

29th Sept. Sight perfect. Leucoma much contracted. Dismissed cured.

Case IV. 13th August, 1828. John Tielman, aged 1¾. Conjunctivitis strumosa of the right eye, with an albugo on the cornea, and red vessels running into it. Restless, and sweats through the night. Symptoms consequent to measles, four months ago.

℞ Sulph. Quinæ gr. vi. Sacch. Albi ʒss; M. Divide in pulv. xii. Cap. i. ter indies.—Lac cum aqua tepida, ter indies, pro collyro.

17th. Rests much better, and sweats less. Eyes stronger.

27th. Still improves.

31st. Bowel complaint. ℞ Subm. Hydr. gr. i. Sacch. Albi gr. vi. M. Cap. q. p.

7th Sept. Much improved. Contin. Quina.

Case V. 15th August, 1828. James Tassie, aged 8. Ophthalmia strumosa of the right eye. Cornea rough and nebulous. Has been troubled with this complaint, more or less, for seven years past. There formerly was a considerable albugo on the right cornea, but it had diminished much till within a fortnight ago, when a relapse took place.

Emeticum Tartr. Antim. more solito.—Instill. gtt. Sol. Argent. Nitr.

16th. An onyx at the lower edge of the right cornea, which was not observed yesterday; but he opens the eye better to-day. ℞ Sulph. Quinæ gr. xii. Sacch. Albi ʒss. M. Divide in pulv. xii. Cap. i. ter indies.—Collyr. Mur. Hydr.

18th. Onyx gone.—Belladonnæ Extr. ad regionem circumorbitalem.

20th. The intolerance of light having considerably subsided, the cornea can now be more completely seen. The centre of it appears to be perforated by an ulcer, and the pupil contracted.

22d. Iris everywhere in contact with the cornea. Eye continues easier.

27th. The iris appears to be returning a little into its natural place. Some of the pupil is seen. He sees a little with the eye.

28th. Pupil expanding, and cornea clearing.

1st Sept. Pupil free of the cornea, except at its inner edge, where it still adheres by a single point.

16th. Iris entirely free of the cornea.

23d. Eye continues to improve.*

Case VI. 18th August, 1828. Janet Yule, aged 5½. Conjunctivitis strumosa of the left eye, with a small albugo on the cornea. Little or no redness, but eye very intolerant of light.

℞ Sulph. Quinæ gr. vi. Sacch. Albi ʒss. M. Div. in pulv. xii. Cap. i. ter indies.

19th. Collyr. Mur. Hydr.

26th. Instill. gtt. Sol. Argent. Nitr.

28th. Intolerance of light much abated.

30th. Bowels loose. Omitt. Quina.—℞ Pulv. Rhei gr. viii. Cap. q. p.

1st Sept. Continues to improve. Repetant. Pulv. Quinæ.

3d. Bowels again loose. Eye much improved.—Cap. Pulv. Quinæ i. indies.

14th. All but well.

19th. Dismissed cured.

I have found the sulphate of quina highly serviceable in a variety of other cases besides those of the pure phlyctenular ophthalmia; for example, in corneitis, in ophthalmia tarsi, and in catarrhal ophthalmia modified by the strumous constitution.

Case VII. 7th July, 1828. John M'Kinnon, aged 6. Ophthalmia tarsi, of two years' standing. Copious discharge of purulent matter from the diseased Meibomian follicles and conjunctiva. Left ear discharging matter, and much covered with porrigo.

Instill. gtt. Sol. Argent. Nitr.—Appl. Ung. Hydr. Præc. Rubr.† ad margines Palpebr. o. n.—Collyr. Mur. Hydr.

9th. ℞. Sulph. Quinæ gr. xii. Sacch. Albi ʒss. M. Div. in pulv. xii. Cap. i. ter indies.

18th. Much improved.

3d Aug. All but well.—℞. Sulph. Quinæ gr. vi. Sacch. Albi ʒss. M. Div. in pulv. xii. Cap. i. ter indies.

Case VIII. 9th July, 1828. Janet Burns, aged 34. For twenty weeks has been labouring under an attack of conjunctivitis in both eyes, probably catarrhal in the first instance, modified by a strumous constitution. Has a sensation of sand in the eyes. Eyelids adhere in the morning. Much intolerance of light, and epiphora. Complains a good deal of pain in the temples, alternating with pain in the eyes. Pain of eyes easier towards morning. Palpebral conjunctiva slightly granular.

Instill. gtt. Sol. Argent. Nitr.—Ung. Praec. Rubr.—Collyr. Mur. Hydr.—℞. Sulph. Quinæ gr. xxiv. Sacch. Albi ʒi. M. Div. in pulv. xii. Cap. i. ter indies.

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* This was one of the most remarkable and pleasing recoveries from penetrating ulcer of the cornea, and involved iris, which I have met with. The recovery was mainly attributable to the salutary operation of the quina on the inflammatory affection, and to the mechanical effect produced by the belladonna. I may here remark, that belladonna, applied in cases where the iris protrudes to one side of the cornea, has sometimes appeared rather to favour a farther prolapsus: not so when the edge of the pupil is involved in an ulcer of the cornea.

† 12 grains to 1 oz. of axunge.

10th. Scarif. facies interna palbebrarum.

13th. Improving.—Contin. remedia.

15th. More epiphora.—Appl. Sulphas Cupri ad faciem interiorem palpebrarum.—Vesicatoria pone aures.

16th. Conjunctiva of the eyelids more vascular.

17th. Instill. gtt. succi expressi radicis Holci Avenacei.*—Omitt. Sol. Argent. Nitr.

21st. Eyes somewhat stronger.

6th Aug. Still improves.—Contin. remedia.

30th. Eyes perfectly well. Dismissed cured.

From the London Medical Gazette.

CASE OF DILATED ŒSOPHAGUS.

By Herbert Mayo, Esq.

Mary Blores, æt. 33, was admitted into the Middlesex Hospital on the 16th of November. She was in a state of extreme feebleness and emaciation. Those who brought her said that during the preceding month she had appeared to swallow nothing: what she took as food seemed to her to stop in the gullet, and after a few minutes returned. I found, however, that a large œsophagus-bougie passed readily into the stomach, meeting with no obstruction beyond a spasmodic resistance in the pharynx. A draught of milk and water was given her—she swallowed without much effort, but it quickly returned. In the course of the afternoon a pint of beef tea was injected through an elastic tube into the stomach—it was thrown up directly.

I now learnt from her that she could swallow liquids much more readily than solid food; that when she took a small quantity, it seemed to her not to reach the stomach, and in three or four minutes was invariably thrown up; that on taking a large draught she had an impression that it reached the stomach—in this case vomiting did not follow so soon, and some part of the draught was permanently retained; that she craved food and drink, and was literally dying of hunger and thirst; that the vomiting which took place was not preceded by nausea, although in its progress it had all the appearance of ordinary retching; that the matter vomited was not thrown up at once, but by successive efforts; it consisted of the food she had last taken, mixed with colourless mucus. The belly was so shrunk that the umbilicus was not more than an inch distant from the spine, upon which the pulsations of the aorta were readily felt: there was no enlargement or hardness about the stomach, no particular tenderness on pressing the epigastrium, no sensation of pain or heat now or formerly.

The complaint had began ten years ago, during pregnancy, since when she had never been free from it, although at times her sufferings had been less, and she had been able to retain some portion of her meals. She had borne in this period three children; the vomiting had lasted during the whole period of her pregnancies, and during her confinement. The principal remedies which had been used for her relief were a succession of blisters on the pit of the stomach—but they had produced no benefit. Latterly her symptoms had been greatly aggravated.

This patient was attended by Dr. Watson and myself. But the means which we tried to enable her to retain her food, and to support her expiring strength, had scarcely a temporary effect. She died on the 2d December, sixteen days after her admission. The body was carefully examined, at the expressed wish of her relatives.

The unusual appearances found in the abdomen were—1. the smallness of the first part of the duodenum, which was but half the ordinary size of the ileum; 2. the capaciousness and fulness of the gall bladder,—from which, however, on compressing it, the bile flowed readily into the intestine; 3. a contraction of the middle of the stomach of the length of two inches, for which extent the peritoneal coat was thickened and opaque, and the inner membranes folded in deep longitudinal rugæ, the mucous surface of which was partially suffused with circular spots of red. The breadth of the contracted part of the stomach, as it lay collapsed, was an inch and a half.

But it was in the chest that the most remarkable circumstance presented itself. The œsophagus gradually enlarged from the pharynx, which was perhaps rather narrower than usual, to an extraordinary degree of dilatation; the greatest breadth which it attained was situated about four inches above the cardia: the tube then contracted more abruptly, so as to render the termination of the œsophagus, like its commencement, of nearly the usual dimensions. The structure likewise of the cardiac extremity for about an inch, and of the pharyngeal end for about half an inch, was healthy. The intermediate part presented, when inverted, the following curious appearance:—The inner membrane was thickened and opaque, and had *the appearance* of having partially yielded from dilatation; at the upper part the furrows or thinner parts of the membrane followed in some degree a longitudinal direction; at the lower part the surface was pitted with shallow depressions of various figures. At the furrows or depressions the membrane seemed of the natural thickness and colour; the intermediate raised and thickened part was opaque and whitish. The muscular fibres of the œsophagus were of the natural colour and thickness.

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* The expressed juice of the knotted root of the Holcus Avenaceus is a remedy from which I have seen much benefit, in chronic catarrhal ophthalmia, and in granular conjunctiva.

From the Glasgow Medical Journal.

CASE OF SPINAL NEURALGIA.

By John Allan.

Mary Durand, a single woman, 24 years of age, applied to me on the 25th of June last for relief, complaining of pain in the left side, under the mamma, not in the gland. The pain was much aggravated by pressing with the fingers against the ribs, and sometimes, she said, it extended down the side, as far as the crest of the ilium. It was accompanied with pain at the top and towards the back part of the left shoulder, which she described as a sensation of burning, not interfering with the movements of the joint, but so tender to the touch was the part, that she could not rest on that side in bed, and always awoke in severe pain, if she happened to turn upon it. She had not been altogether free from either of those pains for nearly four years, but they had always been worse for a few months every spring and autumn. About seven years ago she had been suddenly attacked, while kneeling, with severe pain in the left knee, darting up the thigh and into the loins. Considerable swelling and local inflammation had then appeared in the knee, but were soon removed, while the pain in the knee and loins lasted, with little or no intermission, for three years and a half, when, while walking, she was surprised to find her lameness suddenly leave her, and, at the same instant, the pains in her side and shoulder came on for the first time.

Her complexion was pale and sallow, with an aspect expressive of habitual suffering. Her tongue was slightly furred and moist; pulse feeble. She was emaciated, and had no relish for food; bowels inclined to be costive. She had begun to menstruate very soon after 12 years of age, but the discharge had never occurred oftener than once in five or six weeks. The discharge was copious, unaccompanied with uterine pain, and generally lasted for eight days. About two years ago, however, it had become less in quantity, of a paler colour, and accompanied with pain, though still lasting eight days.

Having perused Dr. Brown's paper on Irritation of the Spinal Nerves, shortly before this patient presented herself, I was led to examine her spine, when I found that there were three or four of the middle dorsal vertebræ, the most moderate pressure upon which gave her considerable pain in the part, and increased that in her side. She had never previously felt pain in that part of her back, although the tenderness was too unequivocal, and too distinctly limited in extent, to leave any doubt as to its reality.

A few leeches being applied over the tender part of the spine, she was surprised to find the pain in her side immediately relieved. Thus far Dr. Brown's observations were curiously confirmed. My acquaintance with the powers of subcarbonate of iron, in relieving pain of the neuralgic kind, of which I considered this to be an example, induced me to prescribe one drachm to be taken three times a day. At the end of a week after this treatment was commenced, she declared herself more free from pain, than she had ever been during the seven years that had elapsed since the pain first began in her knee. Her countenance was visibly improved, both in expression and complexion, and the pain had become intermitting, recurring every evening only, instead of being constant as heretofore.

The periodical character now displayed by this affection, induced me to give, instead of subcarbonate of iron, powder of bark, and carbonate of soda (ten grains of each,) every four hours. A blister was likewise applied to the spine. At the end of another week the pain was still less troublesome, and the blister being healed, the spine was directed to be rubbed every night and morning with ointment containing tartrate of antimony, and the bark and soda were continued. On the 14th of July she complained of constipation with headach, and heat of skin, on account of which, and with a view to bring on the menstrual discharge, I gave her half an ounce of oleum terebinthinæ, with the same quantity of castor oil. This dose not having acted on the bowels, she took at bedtime a powder containing three grains of calomel, with fifteen of jalap. This medicine brought away a large quantity of a highly offensive fæces of a bottle-green colour. She was now directed to take half a drachm of oleum terebinthinæ, mixed with five minims of liquor potassæ, and half an ounce of cinnamon water, three times a day. The jalap and calomel were likewise ordered to be taken every second or third night. This practice being continued till the 4th of August, an enormous quantity of scybalous and green fæces, with four large lumbrici, and a vast number of ascarides, were discharged. The turpentine mixture was then ordered to be still continued, but instead of the jalap and calomel powders, a pill containing four grains of the compound colocynth pill, with half a grain of calomel, was directed to be taken every night and morning. This plan was pursued till the 18th of August, when the pains had completely disappeared, her alvine evacuations had become healthy, her complexion clear, her appetite good, and her nights passed in sound refreshing sleep on either side.

The only remark which I think worthy to be made on this case, is, that the neuralgic symptoms seemed to have been so severe and unremitting for so long a period of time, as to have drawn the patient's attention away from regarding those feelings which are frequently felt where so loaded a state of bowels exists, accompanied with worms. That the neuralgic pain was really dependent upon an irritable or tender condition of a portion of the spinal marrow, there appears sufficient reason to believe. As soon as that local irritation was relieved by the treatment directed for it, the brain, sympathizing with the disordered state of the digestive organs, began to be the seat of pain and irritation. This led to the administration of those purgatives, by which the bowels were fully evacuated, and brought into a healthy state. I cannot conclude without stating, that I think the profession considerally indebted to Dr. Brown, for the valuable paper already referred to.*

From the London Medical Gazette.

CASES OF GANGRENE OF THE LUNGS.

Some interesting cases of gangrenous suppuration of the lungs were published by Dr. Chambers, about eighteen months ago, in which he particularly pointed out the horrible fœtor of the breath as a diagnostic mark of the disease. The following cases which recently occurred at the Hôtel Dieu are good illustrations of more extensive destruction of the lung by a similar disease.

Case I.—A man, aged 32, of good constitution, laboured under bronchitis for some weeks, to which he paid little attention, when he was suddenly seized with pain in left side, dyspnœa, considerable cough, and a rigour, followed by fever. He was admitted into the Hôtel Dieu next day. Crepitation was perceptible over the whole extent of the left lung, posteriorly, and reaching to the site of the pain in the side, which was increased by percussion; great oppression, with frequent cough, and expectoration of violet-red colour, mixed with mucus; pulse frequent and small; constant chilliness; cheeks flushed.

Next day the symptoms remained unabated, and *fœtor of the breath* was observed. Two days after it is stated that the expectoration maintained the same appearance, but *was now fœtid;* the breath was, however, still more offensive, and during the fits of coughing particularly so. In the evening the breath is said to have become *gangrenous.*

21.—The cough was small, difficult, and painful, producing an expectoration of violet-coloured matter, approaching to chocolate, *with a characteristic odour.*

22 to 25.—Expectoration and breath emit an *intolerable stench.* On the latter day the patient died.

Examination.—The body not emaciated. Strong adhesions of the left lung to pleura costalis. At its posterior part a large gangrenous layer, occupying the two superior thirds of the lung, covered at some points by a false membrane. The lower third, and the parts round the gangrenous portion, in different degrees of inflammation, and hepatized; the putrid mass was in great part black or violet-coloured, containing fragments of the pulmonary texture; the smell gangrenous, but less so than that of the breath during life; pus might be squeezed from the adjacent part of the lung.

Case II.—A man aged 55, enjoyed good health till the beginning of May, at which time he experienced pain in the left side of the thorax after exposure to cold. During the next few days the cough was frequent, and the expectoration tinged with blood. A rigour now came on, followed by a distinct exacerbation of fever, and he came to the Hôtel Dieu. At this time he presented symptoms of inflammation of the lungs, and was bled with relief; he left the hospital in twelve days, being sufficiently well to resume his occupation. Scarcely had he done this, however, when he had a relapse, accompanied by great lassitude, oppression of breathing, and frequent cough. At the end of a week he returned. He was now at the twenty-first day of the attack. His skin was yellowish; face pale or of a leaden hue, and greatly altered; his cough frequent, with abundant expectoration of matter like chocolate, with small specks resembling pus, and little bodies about the size of peas, which appeared to be portions of the lung. This putrid mass exhaled a *gangrenous odour*, and the expired air was impregnated in a high degree with an equally disgusting smell, which surrounded the patient's bed with a contaminated atmosphere. Percussion gave a clear sound over the whole extent of the chest; auscultation did not discover the pulmonary expansion on the right side. The pulse was weak, but not frequent; the patient was in a state of extreme prostration. Next day the odour of the breath and expectoration was, if possible, more dreadful. He lingered two days longer, during which time the fœtid smell somewhat diminished, and the proportion of pus in the expectoration increased.

Examination.—The left lung had contracted firm adhesions, particularly above and behind. It was torn in attempting to remove it, and there issued from the middle and posterior part a large quantity of dark-coloured matter, similar to what had been expectorated. An incision was made along the back part of the lung, and laid open a large cavity, occupying all the extent of the pulmonary organ, and still in part filled with the same kind of dark putrid matter. On washing out the cavity it was perceived that it was lined with a smooth and white membrane, to which were still adherent, at some points, dark filamentous shreds; these were removed by the least touch, and left the surface smooth beneath. The boundary was formed by a false membrane, about a line in thickness, which separated the mortified from the sound parts. The lung was reduced to a kind of bag, the parietes of which were on an average about an inch thick. In the upper part of the lung, which was hepatized, an incision discovered a number of smaller tubercles, which in the centre were in a crude state; and at one point several had suppurated, forming a cavity large enough to contain a nut.

[The Editors of the *Journal Hebdomadaire*, from which these cases are abridged, add, in a note, that although the fœtor of the expectoration, such as above described, is usually dependent on gangrene of the lungs, yet that this is not invariably the case. In confirmation of this assertion they refer to three instances of fœtid expectoration—in the first, the patient is still alive; in the second, there was chronic bronchitis, with considerable dilatation of numerous bronchi; and in the third, bronchitis with some appearances of chronic pneumonia. Laennec gives a case of dilatation of the bronchi, with remarkably fœtid expectoration. The argument derived from the first patient having survived we consider to be altogether erroneous, as patients more frequently recover from this than other forms of purulent expectoration.—*Ed.*]

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* Vide Journal of Foreign Medicine, Vol. II. page 315.

From the London Medical Gazette.

CASE OF CYNANCHE TONSILLARIS, WITH HEMORRHAGE. By THOMAS WATSON, M.D.

Joseph Smith, a coachman, 26 years old, was admitted into the Middlesex Hospital on the 22d of October. He complained of sore throat and inability to swallow. The external fauces were considerably swelled on both sides. He could open his mouth to a very small extent only; and he was unable to protrude his tongue, which was large and furred. It was, therefore, impossible to obtain a satisfactory view of the back part of the mouth; but the tonsils could be indistinctly seen very red and large, and on the left tonsil a white speck was visible. His breath was peculiarly offensive, and he complained of an unpleasant taste in his mouth. The pulse was about 90. The bowels were confined. He said that the soreness of throat had come on in the evening, five days before. He had been more than once wet through, in the preceding week; had felt unwell, and had some shivering, a day or two before the throat became affected.

Twelve leeches were immediately applied to the outside of the throat, beneath the angles of the jaws. Five grains of calomel were given in the evening, and the "haustus sennæ compositus" of the hospital pharmacopœia the next morning.

On the 23d the outward swelling was not apparently diminished, but he said that he had experienced great and immediate relief from the leeches, and the bowels had been freely purged. He was directed to use a myrrh gargle, and to take ʒj. of the sulphate of magnesia in ℥iss. of the compound infusion of roses, every eight hours. From this time to the 5th of November there was but little variation in the daily reports, and not much change had occurred in the local symptoms. There was still much swelling of the external fauces on each side, and the same difficulty existed of obtaining a fair view of the tonsils. The patient was still unable to move his tongue, or to separate his jaws to the width of more than half an inch. During this period he had occasionally felt an obscure sensation of throbbing in the throat, and he sometimes complained of pain shooting from the throat into both ears. He was much distressed throughout by the accumulation of viscid and ropy mucus in the fauces, and was almost continually, whilst awake, trying to hawk up the mucus. The same offensive fœtor was present: this was in some degree corrected by a gargle containing the chloruret of lime, in the proportion of 15 grains to the pint of distilled water. The bowels continued freely open; the pulse was a little above 100, and of moderate strength and fulness; the skin cool. Leeches were repeatedly applied to the throat, always with relief to his uneasy sensations there, but never with any decided influence upon the external swelling, which remained hard and somewhat tender. A blister to the left side of the neck, and poultices, had also been applied, and the steam of warm water for some time diligently inhaled. No apparent benefit resulted from these measures. He obtained sleep and ease, after one or two very disturbed and restless nights, by the occasional exhibition, at bedtime, of half a grain of the acetate of morphia. He was able to swallow soft food.

On the 5th of November the swelling had somewhat subsided, especially on the right side of the neck; the fluctuation of matter was perceptible just below the symphysis of the chin, and, a puncture being made by a lancet in this part, a considerable quantity of very fœtid pus was discharged. The tongue was still large and yellow, and immoveable by any effort of the patient. He could swallow somewhat more easily. He was much quieter, and less distressed by the accumulation of mucus in the throat. The next day he could open his mouth better, yet still imperfectly; no ulceration of the tonsils could be detected, but the fauces were embarrassed by tenacious and stringy mucus.

On the 7th November, about 9 o'clock in the morning, a quantity of florid blood was suddenly discharged from the mouth, and continued to flow till 12 or 14 ounces had escaped. Infusion of roses, containing an additional quantity of sulphuric acid, was injected by means of a syringe against the back part of the mouth, and this apparently restrained the hemorrhage. The blood which had been discharged coagulated into a tolerably firm clot, and contained here and there some portions of a curdy whitish substance. Obscure fluctuation was now detected at the lower part of the throat externally, a little to the left of the thyroid cartilage. A lancet was passed through the skin, and a very small quantity of horribly fœtid pus was evacuated. At half past 9 in the evening the hemorrhage recurred from the mouth, and a pint or more of florid blood was discharged in a small but continued stream; and more was excreted, mixed with mucus, afterwards. To so small an extent could the patient open his mouth, that it was found impossible to mop the fauces by means of a sponge fastened on a probang, and soaked in a saturated solution of alum.

The alum solution was therefore injected against the fauces, and the hemorrhage ceased. At half past four the next morning it returned again, and nearly two quarts of florid blood were lost, when the bleeding stopped, and he became so faint that it was necessary to give him a little wine and water. On that day (the 8th Nov.) the patient was seen by Dr. Southey and Mr. Mayo, as well as myself. There was then no hemorrhage. The pulse was small and rapid. It appeared impossible to ascertain precisely even from what part of the mouth or throat the bleeding had chiefly proceeded. The mouth could be opened sufficiently wide to allow the finger to reach the fauces, but no ulceration could be felt. There was considerable fulness and swelling in front of the throat externally, and the orifice made by the lancet the day before was of a livid colour, and apparently gangrenous; and this appearance extended a quarter of an inch around it. The peculiar fœtor was still great. The expediency of tying one of the arteries was considered: but as it was very uncertain from what exact place, or even from which side of the throat, the blood came, this did not seem advisable or justifiable. It was supposed that ulceration had laid open some artery, probably the lingual, but whether the lingual, or some other branch, and on which side, could not be certainly made out. The incipient gangrene also was thought to be unfavourable to tying the carotid, even if the side whence the hemorrhage proceeded could have been determined. It was resolved therefore to support the patient's strength as cautiously as possible, and to endeavour to apply some styptic, or to act according to circumstances, if the bleeding should return. A stale-beer poultice was applied round the neck, and the following draught was prescribed, to be taken every three hours:—

℞ Quinæ Sulphatis gr. ij.
Acidi Sulphurici Diluti ♏xv.
Decocti Cinchonæ ℥iss. M. fiat haustus.

The next day, the 9th, the hemorrhage had not returned. A considerable quantity, however, of dark coagulated blood had been discharged from the external opening, at the lower part of the throat; and the swelling of that part had nearly disappeared. It was plain, from this circumstance, that a communication existed between the external wound and the place which gave issue to the blood internally; the gangrenous appearance had not spread. On the 10th a small slough had separated, the gangrene having been trifling in extent, and quite superficial. A puriform discharge, unattended by fœtor, had taken place from the external wound. There had been no return of hemorrhage, and he swallowed better. On the 11th and 12th he is reported as going on well, except that his nights were restless. The pulse 108; the skin rather above the natural temperature, and the sore continuing to discharge. The same medicines were continued, and an opiate given in the evening, after which he slept well.

From this time to the 21st—that is, for a fortnight from the period of the last hemorrhage—he continued slowly to gain strength. The bowels acted regularly, and matter was still discharged from the sore; he could not, however, move his tongue, nor articulate his words, nor open his mouth, except to a slight extent.

His appetite was good, and at his earnest request he was allowed a small portion of tender mutton chop, to be cut into small pieces, and swallowed with caution. Soon after taking some of the meat, which, though divided into very small fragments, excited coughing when it was swallowed, blood was found to be trickling in small quantity from the external wound: when gentle pressure was made over the wound, blood came from the mouth; the hemorrhage, however, lasted but a short time, and was so trifling in amount that it was not thought necessary to apprise me of its occurrence.

At half past eleven at night it suddenly recurred profusely, and from one to two pints of blood were lost, when the bleeding ceased. About twelve o'clock I reached the hospital, where I found Mr. Mayo, who had also been summoned upon the renewal of the bleeding. The patient was then quiet, but weak, languid, and pale; and the pulse was feeble, and beating 144 times in the minute, and he complained of being very chilly and cold. It was found that a probe introduced into the external wound passed towards the left side of the neck; and on further examination with the finger, the os hyoides on that side could be felt quite denuded and rough. It was now evident that the bleeding vessel belonged to the left side of the neck, and it was determined, in consultation with Mr. Joberns, who had also arrived, that a ligature should be put upon the left carotid artery, as affording the patient the only chance of security against death by hemorrhage. For this purpose he was carefully moved from his bed to a table in the ward. Before, however, the operation could be commenced, the hemorrhage recurred afresh; it became necessary to raise him into the sitting posture, and blood, fluid and clotted, and mixed with tenacious mucus, was expelled with difficulty from the mouth, by efforts partly of hawking and partly of something like the action of vomiting. Mr. Mayo was able, by inserting his finger into the wound, to compress the artery between the finger and thumb, and to arrest the hemorrhage; but the patient was now dying; his efforts to clear the throat had become less effectual, his countenance was covered with perspiration, and a little flushed. He was laid down again upon the pillows, became slightly convulsed, and presently expired.

From time to time after the last breath was drawn, and at considerable intervals, a convulsive motion of the chest, or ineffectual effort to inspire, took place, whilst the pulse went on, though reduced in frequency to probably half its former number of beats; and the action of the heart against the intercostal muscles could be seen. At each convulsive motion of the thorax, the force of pulsation at the wrist was, for five or six beats, sensibly increased; but the pulse gradually ceased to be felt, the action of the heart was no longer perceptible, the face became pale, the eyes fixed, and the pupils dilated. The mode of death was clearly by asphyxia, and not by syncope.

This conclusion, which the symptoms attending the act of dissolution had not left doubtful, was confirmed upon the examination of the body on the 23d, thirty-seven hours after death. The carotid artery had been previously injected, and its branches were filled with wax; these branches were severally traced. It was found that an abscess had existed, which opened internally behind and below the left tonsil, and nearly opposite to the epiglottis; through this outlet the bleeding into the mouth had taken place; the wall of the abscess where it opened internally was very thin. This abscess ran along the left side of the larynx, leaving the os hyoides rough and bare, and terminated externally by the opening already described, and which was made by the lancet. The facial and lingual branches of the carotid arose (as they are known frequently to do) by a common trunk. The lingual branch was traced to the situation of the abscess, where it terminated by an open mouth, about which the matter of the injection was found extravasated; on tracing the same artery beyond the abscess, it was seen to be quite empty. There could be no doubt that this was the artery from which the hemorrhage had proceeded, and that it had been divided by ulcerations at the place where the abscess was situated. On slitting up the trachea, bronchi, and their branches, they were found to contain coagulated blood; there was a firm clot in the larynx; and another, composed partly of tenacious mucus, in which the coagulum of blood was mixed and entangled, remained at the summit of the fauces. The lungs were large and distended, and blood could be traced through many of the bronchial ramifications into the very air vesicles; this was more the case in some parts of the lungs than in others. A section of those parts where it was most evident presented just such appearances, but smaller and more numerous, as are seen in what Laennec has called "pulmonary apoplexy." On the external surface of the lungs, as is frequent in that disease, some well defined spots, of an uniformly dark colour, were visible; upon cutting into these they were found to have been produced by a sanguineous engorgement of the extreme vesicular branches of the air tubes, the boundary depending apparently on the extent of the lobules in the several cases. In some parts of the lungs this appearance did not exist—in those parts where it occurred, it was partial; blood had been forced to the extremities of some air tubes, and not of others. The blood in the blood-vessels was fluid, and escaped before the condition of the cavities of the heart, in regard to their contents, was ascertained. No vestige of ulceration could be perceived on either of the tonsils.

From the Revue Medicale.

OBSERVATIONS POUR SERVIR A L'HISTOIRE DE L'HYPERTROPHIE DU CERVEAU. Par Meriadec Laennec, D.M.P.

Hypertrophy of the brain is an organic alteration which is still little known, if we may judge from the silence of anatomists and physiologists on this subject.* Professor Laennec, so far as I know, is the first by whom it has been mentioned, without, however, giving any detailed examples of the disease. The following observations by him, are appended to a memoir of M. Matthey of Geneva, on the distinctive characters of internal hydrocephalus: "There is, moreover, a third alteration which produces the same effects. Morgagni observed, that in some of the bodies which he examined, the brain appeared to be too voluminous relatively to the cavity in which it was contained, and from this circumstance to have been compressed. (*De Sedib. et Caus. Morbor.* Epist. iv. No. 32.) M. Jadelot has informed me, that he had witnessed the same thing in children, and has remarked that a great number of those who die with symptoms of hydrocephalus internus, present upon dissection, no other morbid appearance than this disproportion of volume, between the brain and cavity of the cranium. I have also had occasion to see several cases which I considered as examples of internal hydrocephalus, and where, upon examination, a very minute quantity only of water, was found in the ventricles, while the circumvolutions of the brain being strongly flattened, indicated that this viscus had undergone a compression which could only be attributed to an increase of volume, and consequently to a too active nutrition of the cerebral mass." (*Journal de Medecine* de MM. Corvisart, Leroux et Boyer, tom. ii. p. 669.)

Subsequently to this period, it appears that my relative met with a number of similar cases, for in his Cours de Médecine, in the college of France in 1823, he speaks of hypertrophy of the brain in terms which prove that it had, more than once, fallen under his observation. "This alteration, he observes, is sufficiently common in children, more rare in adults. It is characterized by a very great degree of firmness of the cerebral mass, and by a considerable flattening of the circumvolutions of the brain, although the ventricles of this organ contain little or no serum. It may develop itself slowly; but more frequently it occurs as an acute affection, the symptoms of which are very analogous to those of hydrocephalus. It appears to be neither the result of inflammation, nor of excessive action of the organ, for it is not more frequent in studious persons, than in others; and it is rare that inflammation is even the occasional cause of hypertrophy, unless in the case of the tonsils. In almost all other organs, inflammation protracted or frequently repeated, ultimately induces atrophy."

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* M. Laennec states in a note, that the present article was written a considerable time previous to the appearance of the paper by Dr. Dance, translated for the Journal of Foreign Medicine, vol. ii. p. 409. The cases detailed by Dr. Dance, he observes, are so conclusive, that the publication of those which follow, might have been dispensed with, had he not thought that upon a new and controverted subject, we could never possess too many materials.

These brief observations, the correctness of which is not confirmed by any detailed relation of facts, have awakened without satisfying the attention of practitioners; and by many physicians, hypertrophy of the brain is a disease, the existence of which is still considered problematical.

Four years ago, however, a very interesting case was published by M. Scoutteten in the *Archives Génér. de Médecine*, tom. vii. p. 44. The subject was a child, aged five years and a half, with a very voluminous head and a low degree of intelligence, who died on the 16th day of a moderate febrile affection, during which he had presented no cerebral symptoms, other than a degree of drowsiness, which readily left him when his attention was excited. On the day of his death, there suddenly supervened, without any evident cause, a complete abolition of the intellectual faculties. On opening the body, M. Scoutteten remarked that the brain was very voluminous, and of firmer consistence than ordinary, without presenting any other alteration. The anormal development of this organ appeared to have taken place principally at the superior and posterior part of the hemispheres, for it required an incision of nearly three inches in depth to reach on this side the lateral ventricles, while beneath them the cerebral substance was not more than an inch in thickness; a very minute quantity only of reddish serum was found in the ventricles.

This description, which I have transcribed almost verbatim, appears to me to remove all doubt of the existence of cerebral hypertrophy. It is to be regretted, however, that M. Scoutteten has omitted to notice the flattening of the circumvolutions of the brain, coinciding with the almost total vacuity of its ventricles, a circumstance which I regard as the surest anatomical character of the alteration, and which ought to have taken place in this instance. It is to be regretted also, that he was unable to connect more positively some one of the symptoms observed during life, with the alteration found after death; but the physician from whom he received the history of the disease, (for M. Scoutteten was present only at the opening of the body,) assured him that he had neither observed deep stupor, nor convulsive nor automatic movements, nor any of the symptoms indicative of strong compression of the brain. It is, notwithstanding, probable, that the complete abolition of the intellectual faculties supervening suddenly a few hours before death, had been preceded, accompanied or followed, by some other serious symptoms, the rather that besides the hypertrophy of the brain, there existed in this subject evident traces of inflammation of the meninges.

Like that of M. Scoutteten, the following cases will hardly do more than point out the anatomical characters of hypertrophy of the brain. It will be seen, however, that this lesion has constantly coexisted with convulsive or epileptiform symptoms. I may even say, that I have never seen a case of fatal epilepsy in which there did not exist an evident hypertrophy of the brain. It is true, that the cases of this kind which have fallen under my observation have all been examples of *saturnine epilepsy*, except that which forms the subject of my first observation; and I would not, therefore, be understood to say, that in ordinary epilepsy the same lesion will be constantly found. It appears besides, from the researches of MM. Boucher and Cazanvieilh, (*Arch. de Med.* 1825 and 6,) that congenital epilepsy, or that which dates from a remote period, is connected with very different encephalic alterations. I observe, nevertheless, that *induration* of the cerebral substance, one of the anatomical characters of every hypertrophy, holds the first rank in their clinical table; and although I concur with them in the opinion that this induration may be conjoined with chronic inflammation, I cannot but consider this fact as very favourable to the opinion which I have just emitted.

Case 1. Adelaide Noyau, a cook, aged twenty-two years, was affected with a slight catarrh, in the beginning of December, 1822; the cough at first was unfrequent, and unaccompanied by pain or expectoration. After a continuance of eight or ten days, the catarrh increased in severity; the cough was attended by a sensation of heat and pain, fixed behind the sternum; to which was added frequent shiverings, and an almost constant fever.

On the 25th November, she was brought to the hospital of Necker, in the following condition; respiration hurried, cough frequent and painful, recurring in paroxysms, expectoration slightly viscous, decubitus easy on both sides, pain opposite the bifurcation of the trachea, a sense of heat throughout the breast, skin hot, dry, and somewhat florid, pulse frequent, full and quick, some degree of anxiety, obtuse cephalalgia; there was no gastric derangement.

The chest sounded well throughout; the respiratory murmur was weak in nearly its whole extent, and accompanied by a mucous, and occasionally by a sibilant râle. The pulsations of the heart presented nothing remarkable. A pectoral ptisan and some mucilaginous mixtures were prescribed.

During five days the disease, or rather the indisposition of Adelaide, appeared to grow somewhat better, but it suddenly changed on the fifth day, (1st December,) and without having experienced any precursory symptom, she was found in the following condition; sudden and complete loss of consciousness, dilatation of the pupils, fixity of the eyes, contraction of the eye-brows, slight contraction of the right arm, complete insensibility, pulse slow, respiration less hurried than on the preceding evening, but *bruyante* and unequal, no cough, expectoration, or tenderness of the abdomen under the strongest pressure, a slight degree of meteorismus, urine scanty and red, constipation. Prescription; *six leeches to each temple, a blister to the neck, sinapisms to the feet, infusion of orange flowers with tartarized antimony*, gr. xij.

Neither vomiting nor alvine evacuations had occurred in the evening; her condition remained the same; there was only a rather greater degree of contraction of the right arm, the left also began to be somewhat rigid.

During the night the patient vomited twice.

On the 2d December, both arms were strongly contracted. The patient, interrogated, appeared to possess some degree of understanding.

Prescription: *infusion of orange flowers with tartarized antimony*, gr. xv. which was taken in the course of the day, without any apparent effect.

The next day, the patient replied correctly, but in monosyllables, to the questions which were addressed to her; she could easily distinguish objects; the pupils were less dilated, and the eyes less fixed, but the arms still remained strongly contracted; the patient complained that she was unable to extend them. She now felt pain on pinching the skin, which the evening before was completely insensible.

Prescription: *Tartarized antimony*, gr. xviij. which produced no evacuation.

Dec. 4th. All the symptoms of cerebral affection had disappeared; the pupils only, remained somewhat dilated; the eye-brows were still contracted and drawn together, giving to the countenance an expression of sadness and disquietude; there was a slight degree of fever, the pulse continued slow. The tartarized antimony was continued in the dose of eighteen grains.

Alarmed at an expression which fell from one of the students, present at the visit on the 7th, the patient relapsed on the evening of the 8th, into her former condition. For the first time, she experienced during the day, nausea after each glass of the tartarized ptisan; but from the commencement of this treatment, it had been necessary to employ enemata to evacuate the bowels.

On the morning of the 9th December, the patient had recovered her consciousness. The symptoms above alluded to, continued only six hours; after their cessation, a profuse serous diarrhœa supervened, accompanied with severe griping. The quantity of tartarized antimony was reduced to six grains. During the day and the following night she continued tranquil.

At two o'clock P.M. of the following day, the patient, who had just drank a glass of the ptisan, suddenly cried aloud, threw her head backwards, became pallid, and was agitated by convulsive movements; the respiration was hurried; the pallidity of the countenance was successively, and in a very few moments, replaced by a livid redness and a yellowish tint; the pulsation of the arteries and heart became obscure, and soon ceased altogether; the extremities lost their sensibility and motility; respiration grew slow and stertorous; and death soon closed the scene.

Autopsis. The pia-mater was injected, and its tissue infiltrated by a small quantity of serum. The cerebral circumvolutions presented in both hemispheres a remarkable flattening, which led to the supposition that there was a large quantity of fluid extravasated into the ventricles. The substance of the brain was so firm, that it regained its former state, after having been strongly compressed.

The lateral ventricles scarcely contained a drachm and a half of serum each; there was no extravasation at the base of the cranium. The tuber annulare and the cerebellum were softer than the brain. All the sinuses of the dura mater were strongly engorged with blood.

It is unnecessary to follow M. Laennec in his examination of the thoracic and abdominal viscera; they presented few and unimportant morbid appearances. The case above detailed, he observes, is alone sufficient to establish the reality of hypertrophy of the brain. I cannot, indeed, imagine, how we can consider as healthy, a brain, the circumvolutions of which were greatly flattened, and its substance of such firmness as to present a kind of elasticity. Now, the first of these circumstances evidently supposes a compression, exerted by the bones of the cranium upon an organ which had become too large for the cavity in which it was contained; and since it cannot be explained by the extravasation of a great quantity of serum into the ventricles, it must be referred to an expansion of the cerebral substance itself. Here, therefore, we find the two anatomical characteristics of hypertrophy—increase of volume and of density. I am aware that these two circumstances are also met with in organs affected with inflammation, prior to the commencement of suppuration; but the inflammatory induration is always accompanied by an unusual coloration: and, in the present instance, although the sinuses of the dura mater were engorged with blood, the brain presented no marks of congestion: it is even probable, that the quantity of blood circulating through it was less than ordinary. M. Lallemand, high authority on this subject, positively denies that there is any augmentation of density in an inflamed brain; (*Recherches Anatom. Pathol. sur l'Enceph.*) and I concur with him in opinion, that the true anatomical characteristic of cephalitis is drawn from the softening of the cerebral substance.

Perhaps an argument against the existence of hypertrophy of the brain may be drawn from the rapidity of its development. It is true, that in other organs hypertrophy takes place, in general, slowly. There are, however, great differences in this respect, differences which appear to bear a constant relation to the texture of the organ. Thus the parenchymatous viscera, the liver, spleen, thyroid gland, &c. undergo this alteration in much less time than the heart and other muscles. Now, the nervous substance is, of all our tissues, that which has the least cohesion; it holds a kind of middle station between the solids and fluids, and therefore ought to participate, in some degree, in the rapidity of the nutrition of the latter.

We have seen above, that Professor Laennec attributes to hypertrophy of the brain the same symptoms with hydrocephalus; this is also the opinion of M. Scoutteten, but I believe, that on this point, they are both mistaken. In the case just mentioned, there were present, it is true, some of the symptoms of hydrocephalus, (dilatation of the pupils, fixity of the eyes, contraction of the eyebrows, &c.;) but at the same time, we have the symptoms regarded by the learned Professor Lallemand as pathognomonic of inflammation, (suddeness of invasion, abolition of sensibility, contraction of the superior extremities;) lastly, life was terminated by a genuine epiliptic paroxysm, for I know not what other name to give to the assemblage of symptoms, which supervened on the day of death. The same circumstances will be observed in all the cases about to be detailed.

Before going farther, however, I may be permitted to make a few observations on the treatment of the case above mentioned. In the opinion of many physicians, the employment of tartarized antimony *à haute dose*, is still considered as an useless temerity, even though it be not productive of dangerous consequences. I do not wish to defend here, the counter stimulating practice, of which I am far from being an advocate, and I hasten to observe, that I should certainly not have prescribed the tartarized antimony on my own account, in the present instance. But I am pleased to have it in my power to state, that it produced no unpleasant symptoms during life; that through its influence the disease seemed to be twice arrested in its progress; and, that after death, the gastro-intestinal mucous membrane presented only a few punctations, such as are found in almost all acute diseases. It would not be difficult to bring forward a great number of facts analogous to the above, collected in the hospital of Necker, or in that of la Charité, when I held there the office of Chef de Clinique de la Faculté de Médecine. I shall refer those who may be desirous of further information on this subject, to the extracts published by my friend M. Bayle, in his *Bibliothéque de Thérapeutique.*

Case 2. Jean Baptiste Gournay, aged 44 years, employed in a manufactory of white lead, was admitted into the hospital, April 24, 1823. He had complained for several days of a dull colic, of which he had already suffered several attacks. The absence of fever, the very great paleness of the tongue, and the profession of the patient, left no doubt as to the cause of the disease, and the treatment adopted at la Charité was, in consequence, directed, with some modifications.

The patient bore the remedies perfectly well, and by the eighteenth day, the pain had almost entirely disappeared. In the afternoon of the succeeding day, he had an attack of epilepsy, with entire loss of consciousness. The paroxysms, with a few scarcely perceptible remissions, continued throughout the night. On the 20th, the patient still remained unconscious; his countenance, which habitually had an air of harshness almost approaching to ferocity, now only expressed pain and anguish; his lips were colourless, the mouth filled with foam, the eyes half closed and divergent, the pupils fixed and dilated, respiration stertorous, pulse almost insensible, the muscles of the arm paralyzed.

Leeches were directed to the temples, and twelve grains of tartarized antimony to be taken in six half-glasses of orange flower water; but there was not sufficient time allowed to carry the prescription into effect—death took place at one o'clock, P.M.

Autopsis—eighteen hours after death. The brain filled exactly the cavity of the cranium. The meninges were very pale, and the internal surface of the arachnoid was shining, yellowish, and slightly unctuous to the touch, as if lined with a very delicate layer of albumen.

The cerebral circumvolutions were flattened to such a degree, that the surface of the brain was perfectly smooth. The substance of the brain was, in general, remarkably firm, and when sliced did not permit the escape of a single drop of blood. The cortical portion alone presented towards the posterior and inferior portion, in a space about as large as a two-franc piece, a well marked rose colour, and at this part its consistence appeared to be somewhat less firm than in the rest of the organ.

The lateral ventricles, and the third and fourth ventricles, contained only the very minute quantity of limpid serum which is found in the state of the most perfect health. The cerebellum and tuber annulare presented no alteration.

The lungs were large and free from adhesion; their tissue, elastic and perfectly crepitating anteriorly, was infiltrated in their posterior half by a considerable quantity of sanguinolent and frothy serum. The bronchial lining was, in general, paler than ordinary.

The mucous membrane of the stomach and intestines was of a dull white colour, analogous to that of wheaten dough; not a single injected capillary could be detected, and its paleness continued the same from the cardia to the anus. It appeared generally a little thicker than usual, but it was not softened, at least in any appreciable degree. The liver, spleen, and mesentery, were sound.

It would, I think, be difficult to desire a greater resemblance between organic alterations observed in different subjects. We shall find, moreover, in all the cases, this extreme flattening of the cerebral circumvolutions, connected with a vacuity, more or less complete, of the ventricles, and with a notable augmentation of density in the substance of the brain. I will only remark here, for the sake of those who may be disposed to see in all these cases, the first degree of cephalitis, the kind of ecchymosis accompanied with slight softening, situated on the surface of the left hemisphere. Here indeed were the characteristics of inflammation; but was this very circumscribed inflammation a cause, an effect, or only a complication, of hypertrophy? I am inclined to the latter opinion.

The symptoms observed in Gournay's case, did not differ materially from those which occurred in the last moments of Adelaide Noyau. In both instances, they were those characterizing a genuine epileptic paroxysm: sudden loss of consciousness, tetanic convulsions, head drawn backwards, divergence of the eyes, turgescence, lividity, and paleness of the face, loss of sensibility and motion, and, in the second case, frothing at the mouth. The resemblance will be found still more striking, in the cases yet to be detailed.

One word relative to the condition of the mucous membrane, in the case last mentioned. Its uniform and universal paleness surprised some of those who assisted at the examination It was not anticipated, after the employment of such stimulating remedies as the eau bénite de la Charité, the purgative enema des peintres, the pills of gamboge, &c; but as this paleness presented a shade, differing from that of healthy membrane, as there was, moreover, an evident thickening of structure, it was by them referred to inflammation. I know not whether this appellation can de given to a simple shade of colour, accompanied by a slight increase in the volume of the tissue; I am more inclined to consider it an alteration of nutrition, a hypertrophy. But what to me appears indubitable, is, that this alteration, by whatever name it may be designated, was not the effect of the treatment, but of the saturnine emanations to which the patient had been subjected. It is well known that these emanations constantly occasion paleness in the individuals exposed to them, and in the present instance, we observe this want of colour not only in the mucous membrane of the intestines, but of the bronchii also, and even in the parenchymatous viscera. I regret that I did not observe the state of the muscles; they would, I am persuaded, have been found paler than usual.

Case 3. Jean Mailler, forty-three years of age, and of very robust constitution, had been subject in his youth to rheumatic pains in the extremities. He had served ten years as a marine, and during all that time had enjoyed excellent health, with the exception of a syphilitic affection, of which he had been well cured. Returning home, at the age of thirty years, he again suffered from pains in the joints, to such a degree that he was obliged to relinquish his employments. About the beginning of June, 1825, he engaged as a labourer in a manufactory of white lead. From this period he became habitually costive, although in other respects his health was good. But after the lapse of five months, he was suddenly attacked with pains in the joints, which in a few days rendered him completely impotent. His comrades carried him to the Hôpital Beaujon, from which he was discharged cured, after six weeks of repose and of mild regimen. He resumed his employment, and very soon afterwards, the constipation reappeared.

On the 1st of January, 1826, while breakfasting with his companions, he suddenly fell down in a state of unconsciousness, and remained in this condition nearly three hours. When he recovered his senses, he was surprised to find himself in bed, and remembered nothing of what had passed.

Three days after this accident, (Jan. 4th,) he was admitted into la Charité, in a state of oppression and stupor analogous to that of apoplectics. His legs trembled and were very feeble, although their sensibility was unimpaired; articulation was embarrassed; his ideas confused; head heavy, and painful above the orbits; his pulse was full, without frequency; face flushed; and the abdomen completely indolent.

The treatment employed in la Charité, for colica pictonum, was immediately put in practice. For a few days the patient seemed to improve; his head became freer, articulation more distinct, and the trembling of his legs diminished; but after a little while, the tongue again became embarrassed, and on the 10th of January, the patient had a violent paroxysm of epilepsy, characterized by sudden abolition of sense, rigidity and convulsive movements of the extremities, stertorous respiration, and foaming at the mouth, &c.

To the symptoms of epilepsy, succeeded a delirium so violent, as to require the employment of the straight jacket. A blister was directed to the nucha, and an antispasmodic mixture was added to the treatment already in use.

The delirium continued through the 11th and 12th of January; on the 13th it began to subside, and the patient became so perfectly reasonable, that on the 15th and succeeding days he was employed in the hospital as assistant nurse. The alternate use of purgatives, opiates, and sudorifics, was still continued.

At 11 P.M., on the 20th of January, he had another attack of epilepsy, followed by many others which occurred in rapid succession during the remainder of the day and the succeeding night. In the intervals, he remained in a state of profound coma; there was resolution and almost complete insensibility of the left arm, rigidity only of the right.

21st. Coma, stertorous respiration, foaming at the mouth; pulse frequent, irregular, and weak; death.

Autopsis, thirty-six hours after Death.—The meninges were slightly injected; the circumvolutions of the brain were so much flattened that they seemed to be almost entirely effaced.

The ventricles did not contain a drop of serum; their parietes, which were remarkably dry, were sunken, and apparently compressed one against the other. The cerebral substance presented its ordinary colour and consistence, a slight sanguineous injection only was observed. The cerebellum offered nothing remarkable. The pineal gland contained some small calculous concretions.

The lungs were strongly connected to the ribs, by very firm cellular adhesions; they were engorged with blood and serum, especially at their posterior part; their tissue, however, was still crepitating. In the left lung several small concretions of a reddish-yellow colour were observed, which at first sight might have been confounded with incipient tubercles, but they differed in colour, and were not so firm as the latter; they appeared foreign to the pulmonary tissue, in the middle of which they were situated.

The heart was intimately connected to the pericardium, by a cellular membrane, of ancient date. On its anterior surface was a rounded tumour, about the size of a hazel nut, of an almost osseous consistence, situated between the heart and the serous lamen of the pericardium, to which it was so strongly adherent, that it could not be separated without laceration. The omentum was engaged in the right inguinal ring, and formed a small hernial tumour there. The intestines presented nothing remarkable either in their disposition or colour.

Along the small curvature of the stomach, the coronary vein and its divisions were prominent, and had the appearance of small, whitish, elastic, and semi-transparent chords. This appearance arose from a gas which distended all the veins, and which could be displaced by pressing them slightly. On opening the stomach, a similar gaseous injection was observed in some submucous venous ramifications. The gastric mucous membrane presented here and there, a slight punctated redness—it did not appear to be either softened or thickened; the mucous membrane of the intestines was pale and sound in its whole extent.*

It is almost unnecessary to advert to the uniformity in the description of the state of the brain, in these three cases. In the last, with the exception of their intermittence, the symptoms were exactly the same as those presented by the second; in this instance death took place in the first epileptic attack, in the other, the patient survived till the eighth. In one, the morbid turgescence of the brain advanced with such rapidity, that a fatal compression was the immediate consequence; in the other, a similar turgescence appeared to take place in paroxysms, but continued to increase progressively in severity till death. In this way I would understand the connexion of these eight epileptic paroxysms, with the organic alterations which appeared to have induced them; and in so doing, I only apply to hypertrophy of the brain, what we sometimes observe in that of the heart and of some other organs, which present alternations of augmentation and stagnation according to the influence of the causes or treatment.

There is, in the last case, an anatomical circumstance which I must not pass by unnoticed; I allude to the presence of gas in the coronary vein and its divisions. Willis states that he observed bubbles of air between the lamina of the mesentery, in a woman who died during a paroxysm of hysteria. Another writer speaks of air enclosed in the veins of the brain (*Ephemer. Natur. Curios.*); was there any connexion between the disengagement of this gas in the veins and the epileptic paroxysms? We know that the introduction of air from without into a large vein, after some operations, has been followed by convulsions and instantaneous death. I do not believe, however, that in the present case, the gaseous injection of the coronary vein had any influence on the severity of the symptoms; but I have noted the fact, because it is rare, and therefore curious.

Case 4.*—Geneviève Cholot, aged twenty-two, was admitted into la Charité towards the latter part of February 1828, to be treated for colica pictonum, with which she was affected for the first time. For the last six months she had been employed in a manufactory of white lead—previous to this, her health had been good, and she never had the slightest symptom of epilepsy or hysteria. The colic had existed only five days, but was so severe, as to require the treatment of la Charité in its utmost extent, to remove the pain, and re-establish the peristaltic action of the intestines. On the 14th March, sixteen days after her admission, she was discharged completely cured.

At midnight, on the 30th of the same month, she was found in her chamber in a state of insensibility, with a large ecchymosis around the left eye and temple, and was immediately transferred to the hospital. Her extremities were rigid, cold, and agitated from time to time by convulsive motions; pulse small and miserable; respiration very feeble, countenance pale, eyes unequally open, now fixed, now rolling in their orbits—in a word, she was almost in an expiring condition. We learnt from one of her friends, that since her discharge from the hospital, till the morning of the preceding day, she had preserved her spirits, appetite and health. On the morning of the 30th March, she was attacked, while at work, with an epileptic paroxysm which lasted about half an hour. When she recovered her senses, she stated that it was the first time she had had such an attack. She was carried home and left there, about one o'clock, P. M.; from which time till her admission, no further information respecting her could be obtained.

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* Communicated by Dr. Vyau de la Garde, at that time Chef de Clinique de la Faculté de Médecine à l'Hôpital de la Charité.

* Communicated by Dr. Miquel, Chef de Clinique de la Faculté de Médecine à l'Hôpital de la Charité.

She appeared to improve the first day of her admission, under the influence of frictions with ammonia upon the extremities, blisters to the legs, and some spoonfuls of *eau de casse avec les grains.* This emetic induced nausea and vomiting, which facilitated the removal of the obstruction of the bronchii. In the evening, although consciousness had not returned, she appeared much improved; her pulse was better, the extremities had regained their temperature, and the expression of her countenance was natural. This melioration, however, was of short duration; during the night she had repeated epileptic paroxysms, which were renewed again on the first of April. A violent trismus preventing her from swallowing any medicine, she was actively purged by 15 drops of croton oil applied in friction around the umbilicus. She died the following day in an epileptic paroxysm.

Autopsis, twenty-four hours after death.—On opening the cranium, the first thing which drew the attention, was the complete flattening of the cerebral circumvolutions. The cerebral mass firm, dense, and heavier than ordinary, appeared too large for the osseous cavity from which it had just been removed, and when compared together, it was scarcely conceivable how it could have been contained in it. The meninges, transparent and healthy, could readily be detached, but the flattening continued after their removal. The ventricles were reduced to half their ordinary capacity; they contained no serum, and their sunken parietes nearly touched each other. The substance of the brain preserved its natural colour; it was firm and very slightly moist.

The thoracic and abdominal viscera were perfectly healthy.

This case bears a very strong analogy with the second, both in its symptoms and morbid appearances. It will be seen that I have always met with hypertrophy of the brain after a fatal paroxysm of epilepsy, and that in three out of four cases, this epilepsy arose from saturnine emanations. Several other cases drawn up by M. Miquel, and which I have not inserted, because they did not fall under my immediate observation, are all confirmatory of this remark; he will, doubtless, make them public, and thus more completely remove all doubt respecting the reality of a remarkable augmentation of the volume of the brain in such cases.

We read, however, in the *Clinique Médicale* of M. Andral, a case apparently contradictory to those above mentioned. A painter was admitted into la Charité with colica pictonum, and died suddenly, after having had, a few days before, a violent paroxysm of epilepsy. No appreciable alteration was found in the whole extent of the cerebro-spinal system. I will not venture to say that so able an observer must have been mistaken. He has stated that the ventricles contained only a very minute quantity of serum, and if the cerebral circumvolutions had been greatly flattened, it could hardly have escaped his observation. But when the anatomical characters of the alteration of an organ, consist only in an exaggeration of the normal condition of that organ, they are easily liable to be overlooked; and we know that prior to the publication of the *Traité de l'Auscultation Médiate,* few authors had observed the enlargement of the pulmonary cells in certain kinds of dyspnœa, although this circumstance is incontestable, and of frequent occurrence.

The notable diminution of the capacity of the cerebral ventricles, in the case last mentioned, cannot have failed to attract attention. This diminution must be constant in hypertrophy of the brain; but it is necessary that it should be equally evident as in the present instance, otherwise its existence might easily have been denied. It is not the first time this diminution has been observed; the *Ephermerid. Natur. Curios.* contains the following note, which I translate literally. "Dec. 28, 1649, a young man, æt. 16, of obscure condition, and subject to epileptic attacks, died in the hospital of Leyden, during a paroxysm of the disease. Dr. Adrien Falcobburg, a distinguished anatomist, opened the body, but was unable to discover any manifest cause of death, unless it were that the *ventricles of the brain were too narrow.*" I have cited entire, the above sketch, because it appears to me strongly to corroborate my own cases. Is it not, in fact, more than probable, that this *narrowness* of the ventricles was co-existent with a flattening of the cerebral circumvolutions, and increased density of the substance of the brain?

Case 5.*—Thérèse Guillemin, aged 13 years, of limited capacity, but not idiotic, small stature, otherwise strong, and enjoying general good health, towards the termination of the winter and beginning of the spring of 1810, had a slight attack of mollities ossium, accompanied with anorexia, slow fever, and chronic diarrhœa. Chalybeates, bitter tonics, antiscorbutics, and appropriate exercise, removed these symptoms after the lapse of three or four months. The curvature of the spine, which had never been very strongly marked, diminished, and the child recovered her health entirely; except that from time to time, she still complained of headach and vertigo.

Towards the middle of January 1811, she had a bilious attack with fever, for which I directed an emetic, which she was to take on the morning of the 22d.

An hour before taking it, she suddenly fell to the ground without consciousness, eyes open, fixed, and the extremities slightly rigid; the mixture was given notwithstanding, and after having vomited, she recovered her senses; but in two or three hours she relapsed into the same condition.

I saw her the next day; she remained in the same state; the pupils were dilated, pulse still frequent. *A blister was directed to the nucha, and the infusion of arnica with tartarized antimony to be taken.*

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* Extracted from the manuscripts of the late Professor Laennec.

24th. Her pulse was slow; in other respects her condition was unchanged.

25th and 26th. Same state; pulse slow, extremities somewhat rigid, but mobile and without tetanus.

27th. *Two blisters to the legs.* Same state.

She died on the 28th.

Autopsis, thirty-four hours after death.—Permission was granted to open the head only; it presented a flattened form, from above downwards, elongated in a point from before backwards.

The cranium was very thin, scarcely a line in thickness in any part of the vault; the vessels of the pia mater were engorged with blood; the circumvolutions of the brain were very much flattened, especially at the upper part of the hemispheres.

The whole substance of the brain was remarkably firm, its consistence was perhaps double that ordinarily met with in subjects of this age; when pressed between the fingers the medullary substance could not be crushed without a considerable effort, there even remained a part which continued limber and could not be reduced into pulp.

About an ounce and a half of limpid serum was found in each lateral ventricle; they appeared rather large in proportion to the entire volume of the brain. Serum was also found in the other ventricles and at the base of the brain.

The cerebral nerves possessed a remarkable degree of firmness, and ruptured with such difficulty, that it required a force sensibly greater than ordinary to remove the brain.

Although this case is incomplete, and differs considerably from those which precede it, I have thought it might to cited as an instance of hypertrophy of the brain; I think it even calculated to point out this alteration, when it is conjoined, as was here the case, with genuine hydrocephalus. It is remarkable, in fact, that at the same time the ventricles were filled with serum, the cerebral substance was firm, consistent, and could scarcely be reduced to pulp by pressure. The contrary is always observed in simple hydrocephalus; in such cases, far from augmenting in density, the cerebral substance seems bordering on diffluence.

We may affirm, therefore, from this character alone, that the flattening of the circumvolutions was not wholly, and perhaps in no degree, the result of the ampliation of the ventricles. It is to be regretted, that the distance intervening between the ventricles and the superior surface of the brain was not ascertained in this instance, as in the case of M. Scoutteten; judging from the elongated and pyriform shape of the head, however, it must have been very considerable. I have not sought, moreover, to discover in this case, what did not enter into the mind of its author. The manuscript of my relative is entitled *Accroissement de Nutrition du Cerveau,* and although it dates from so remote a period, it well merits some credence, emanating from such authority.

In this instance, the epileptiform symptoms observed in the other cases were not met with, but there were some convulsive motions accompanied with an almost tetanic rigidity of the extremities, and these, it appears to me, should be referred to the alteration of the nervous pulp, rather than to hydrocephalus, which ordinarily does not present such symptoms.

From the facts above detailed, the following conclusions may, I think, be legitimately deduced.

1st. The brain, like every other organ, is susceptible of a notable augmentation of volume and density, or, in other words, of true hypertrophy.

2d. The anatomical characters of this hypertrophy consist in a very great firmness of the cerebral mass, and a marked flattening of the circumvolutions of the brain, a flattening which coincides with the complete, or very nearly complete, vacuity of the ventricles of this organ, and sometimes with a notable narrowing of these ventricles.

3d. This alteration always coincides with epileptic or epileptiform symptoms.

4th. It develops itself with much greater rapidity than any other hypertrophy, a circumstance which approximates it to the inflammatory congestions, and appears to depend upon the organization of the tissue in which it is seated.

5th. The causes of colica pictonum appear to have a very great influence on the development of hypertrophy of the brain.

From the London Medical Gazette.

ON THE SPECIFIC EFFECT OF ATMOSPHERIC POISON ON VARIOUS STRUCTURES OF THE BODY, *as connected with the production of Disease—especially Fevers.* By Edward Seymour, M.D.

(Concluded from page 200.)

Fever in which the Miasma or Poison of the Atmosphere acted immediately on the Brain after being received into the Circulation.

The affection of the nervous system in fever naturally attracted early the observation of pathologists; and the frequent cases in which after death disease was discovered in the brain and its membranes, led to the conclusion that the origin of fever was to be sought in inflammation and alterations in the structure of parts lodged within the cranium. It is true that it did not escape the observation of these physicians that it occasionally happened that no trace of disease was to be found on examining these parts after death.

Without seeking for disease in other parts which might give rise to secondary disturbance of the nervous system as severe as when primary disease existed in the brain, physicians endeavoured to explain the anomaly of the same derangement of functions existing with or without apparent alteration of structure, by alleging that in the second case a change in the cerebral substance really occurred, but was too nice and minute for human faculties or human observation to discover, and that probably the question would be entirely set at rest when the improved state of microscopic instruments enabled the physician to examine these parts with accuracy.

It is singular that this argument, employed to prop the theory of Drs. Ploucquet and Clutterbuck,* and animadverted on in strong and just terms by Dr. Beddoes in his treatise on Fever, should have been recently revived by Mons. Broussais, to support a doctrine entirely opposed to it; alleging that in the case of fever in which ulcerations of the small intestines are not observed, it arises not from the absence of the organic lesion, but the imperfection of our sight in estimating minute changes of structure.

I have endeavoured to show in the preceding papers that poisons received into the circulation from the atmosphere act as known mineral and vegetable poisons do on definite structures of the body; inflammation and lesion of the membrane lining the bronchi being the direct consequence of the poison of the influenza or epidemic catarrh; inflammation and lesion of the small intestines, the immediate consequence of the poison of the bilious or autumnal fever of temperate climates received into the circulation. The disturbance of the nervous system in such cases being the result of the injury of parts essential to life, acutely diseased: that is, so rapidly injured, that parts at a distance have not been able to become accustomed to an alteration in the relation of functions, which would scarcely have suffered under slow or chronic disease.

For many years physicians were so satisfied with seeking in the brain for the alteration either as the cause or consequence of disease in all fevers, that, with the exceptions mentioned in a former paper, only a cursory view was given to the numerous and important viscera of the abdomen and chest; and the accurate observation of the mucous lining of the intestines has until very recently indeed been almost wholly neglected. I recur more frequently to this fact, because it shows the difficulty of estimating justly the epidemic diseases in which the brain and its membranes were primarily affected. There are numerous histories of cases in which severe lesions were found of parts within the cranium, but nothing is said of the state of other viscera. In modern cases very accurate accounts are given of the state of the viscera in all the cavities: hence we can reason on the causes of disease in the latter examples, but not in the former.

There are various appearances in the brain and its membranes, presented after death, in those who die of fever from the primary influence of miasmata, or atmospheric poison, on these parts, after being received into the circulation.

In the majority of cases there is increased vascularity; the vessels of the pia mater are gorged with blood; an unusual quantity of fluid is found in the ventricles; and on cutting into the substance of the brain, a great number of bloody puncta from the divided vessels present themselves to view. Sometimes, in addition to these, a thin layer of semifluid lymph is observed beneath the arachnoid membrane; and in very severe cases, in which, during the course of the disease, vision has been either diminished or destroyed, lymph has been discovered at the base of the brain, or round the origins of the optic nerves. In much rarer instances, again, the lateral sinuses have been observed to be obliterated after inflammation to a greater or less extent; and abscess in the cerebellum, not communicating with the diseased vein but formed in its vicinity, (as abscesses are formed in other parts of the body in the neighbourhood of an inflamed vein,) has been observed.

With such appearances after death, considered in relation to violent disturbance of the functions of the brain during life, no doubt can exist on the mind of the physician as to the cause of the disease. In similar cases, likewise, (and I have seen many such in hospitals,) no alteration of structure was to be discovered in the lungs or intestinal canal. They were true cases of fever from primary disease in the brain.

The diagnosis of fever from primary disease excited by the atmospheric poison acting on the brain through the medium of the circulation, from the fever with deranged cerebral functions, arising from the injury of parts at a distance, is extremely difficult; for, as I have already remarked, the disturbance of the nervous system is often fully as great, where the disease is situated in the small intestines, as when produced in the brain itself; but, although the diagnosis is difficult, it is not the less essential, as the treatment of the two cases is widely different.

The principal characteristics of the disease we are considering, are, headach, costive bowels, through which, if a passage be obtained, scarcely any fæces are observed, the evacuation consisting entirely of the medicine, with some mucus from the bowels. There is considerable trembling and great sensibility of the surface. If pressed on the abdomen, sense of pain is produced; but a similar sensation is produced by touching the muscles of the leg, or thigh, or arm: the whole sense of touch seems to be morbidly excited. Early in the disease the pupils of the eyes are contracted to a minute point, and there is a marked expression of hurry in all the patient does or requires: with this there is sometimes early delirium, but more generally the senses are collected; but aberration of mind is observed on some trivial subject, often the first indication of the severity of the disease. There is present, thirst, nausea, heat of skin, anorexia, or occasionally depraved appetite, a longing for food, which when presented, is rejected with loathing. The eyes are brilliant and suffused. The symptoms proceed, until, sometimes suddenly, often when unexpected; intense pain is complained of, with screaming, tossing of the hands, rolling of the head, partial loss of sight, stupor alternating with delirium, involuntary discharge of fæces and urine, subsultus, floccitatio, and death.

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* Beddoes on Fever, page 131.

There is, as in the case of disturbance of the nervous system from injury of parts at a distance, no observable remission: the duration of the symptoms of excitement of course vary; in very severe cases four days are sufficient to determine the disease, but the most ordinary period is about three weeks, which has, perhaps, given rise to the popular name of one-and-twenty day fever, a name often applied to diseases different in duration, cause, and danger.

The distinguishing marks of fever, from primary affection of the brain, from fever with disturbed functions of the brain with injuries of distant parts, may be drawn from the costive state of the bowels, the contraction of the pupil, the trembling of the hands and arms, the morbidly excited sense of touch, and often of taste, the absence of more pain in the abdomen than in other parts of the body, the aberration of mind, generally to be traced on particular subjects before it becomes general, pain in the head, often confined to one spot, and very acute, and the pale, haggard, and distressed features of the patient, distinguishable from the flushed and changing colour of the countenance in fever from abdominal disease, and by the absence of marked remissions.

Still it must be allowed that the disturbance of the nervous system is in many respects common to each form. There is subsultus, muttering delirium, sighing, moaning, present in both: it is only by a very accurate history and careful observation that we can establish which part has been primarily attacked, to which our essential mode of cure is to be addressed, while we palliate symptoms which may be believed to have arisen secondarily.

In considering the treatment of this form of disease, we shall, I think, find a clue to the cause of the great disparity of opinion which has existed among physicians on the subject of blood-letting in fever. Where the impression of the morbid poison is directly on the brain, early and repeated blood-letting is necessary, and mercury is to be given in such quantities as will affect the system, and change the action of vessels which would terminate the inflammation by the effusion of water into the ventricles, or lymph within the membranes. Before the pressure of the distended blood-vessels is taken away, the bowels are entirely torpid, the secretions over which the nerves preside are not formed from the blood, and any attempt to restore them by violent or active purgatives, *before the pressure is removed*, appears to me to add a fresh stimulus to the system, and aggravate in a great degree the very evil it is intended to alleviate. On the other hand, in remittent fever, where the disease is situated in the small intestines, and the disturbance of the functions of the brain secondary to the injury of this important part, venesection, except under very particular circumstances, does harm. It does not relieve the disease, but it lowers the patient, rendering him less equal to the administration of remedies necessary to promote the gradual cure of parts rapidly injured, and whose restoration must be of long duration. The patient under such evacuation of blood does not sink to the point we wish or reasonably expect under its use in phlegmonous inflammation, but far below it, and it not unfrequenly happens that a patient in these circumstances, after a full bleeding, falls so low as not to be roused, except by the use of strong stimuli, and has then to pass through a dangerous and protracted illness.

It is only from a wish not to draw out this paper to an unreasonable length, that I do not load it with cases; it is sufficient to say, that I allude to no one point of practice which has not been illustrated under my own observation.

Here, then, is the answer to those two parties who have adopted the practice of blood-letting and mercury in fever, or have arbitrarily condemned it. In cases in which the brain is primarily affected in disease, or in the catarrhal fever, with severe oppression of the respiration, venesection is necessary—it is essential. It should be employed early, largely, and repeatedly; according to the circumstances of the case, and the relief afforded. In cases of fever, with disease in the bowels, it should scarcely ever be resorted to, and then with extreme caution, even when the functions of the brain are greatly disturbed. In fever with primary disease in the brain, purgatives are injurious until the pressure be relieved; in fever from diseased bowels purgatives are always useful—often essential. They must, of course, be adapted to the particular case, and selected with care, to produce a more gradual and healthy secretion from the mucous glands. In this fever, the other remedies in the knowledge of almost every practitioner may be briefly alluded to. Cold lotions should be constantly applied to the head; and, in severe cases, ice mixed with these will be found to relieve sometimes in a wonderful degree the dangerous symptoms, reducing the increased heat, and restoring the mind to a state more nearly approaching natural tranquillity. If blisters are employed they should be used with great caution, and not until the evacuations of blood have made a decided impression on the disease.

The question of the employment of blisters to the head in fever, appears to me to be, as in the case of venesection, of no very difficult solution.

Blisters act either as direct stimulants or by revulsion. From the time of the elder Willis downwards their use has been condemned by many physicians in fever, except on the second principle, and then their application should be at a distance from the affected part.

To the nape of the neck, or still better, to the legs, this remedy, after due abstraction of blood, has often appeared to have cured decidedly the disease of the brain; but both from respect to the opinion of the able physicians who have written on the subject and from my own observation, the application of blisters to the head itself, as a remedy for inflammatory action in the brain, appears wholly inadmissible.

But it sometimes happens, after fevers, that the functions of the brain so long excited are impaired, not from inflammatory action, or the destruction of parts, but from the absence of blood circulating in these parts—a condition similar to that which exists in children after long and wasting diarrhœa. Thus aberration of mind has sometimes existed for weeks after the disturbance of functions of the brain in fever, either from primary inflammation or secondary derangement. In such cases, a direct stimulus applied to the brain, by repeated application of blisters, has been attended with the happiest results.

If blisters, then, are applied in fever, after due evacuations, they should be applied at some distance from the affected part, on the principle of revulsion.

If to restore an increased degree of vitality to parts injured in their functions by long over-excitement (cases which are rare,) they may then be employed as near as possible to the affected part, on the principle of stimulation.

Saline medicine and sub-acid drinks are, of course, employed in this fever with the greatest advantage in the disease and of comfort to the sufferer; and the moderate use of purgatives, the action of venesection and mercury, having relieved the chief danger, will guard against a relapse.

The functions of the skin and kidneys, the disease of the brain being subdued, often return in an increased degree of activity, giving rise, in other words, to the termination of the fever by crisis.

The following occurrence, among several, sets in a very clear point of view the action of atmospheric poison on the brain, through the medium of the circulation:—

In May, 1826, I was requested to see the child of a poor man in very miserable circumstances, on a ground floor in the lowest part of Westminster. The weather was unusually warm, the room damp and stifling. The child was labouring under manifest effusion into the brain, after an illness of three weeks, described to me as fever. It is needless to say it was fatal. About a fortnight from this time I was sent for to see the father, who had head-ach, occasional delirium, a constant trembling, the pupils of the eyes much contracted, and costive bowels. There was great sensibility and incessant talking. His extreme poverty, and the unhealthy situation, induced me to send him into one of the hospitals, where his disease proved fatal about the sixteenth day from the first attack. On examination, there was much fluid in the ventricles and at the base of the brain, and a thin layer of semifluid lymph between the pia mater and arachnoid membrane. The viscera were healthy, and not a trace of ulceration, or indeed disease, was to be found in any part of the intestines. Two children of this unfortunate man were attacked in succession; one of ten, the other of eleven years of age: but by directing the treatment to the affection of the brain early and fully, they both perfectly recovered.

To fevers of this description are to be referred the epidemics related by Drs. Vieussieux and Matthey, as having occurred in Geneva in the year 1805. The description after death of the formation of lymph and pus in various parts of the brain, which cannot certainly occur without the utmost disturbance to the functions of other parts, or the production of fever, might satisfy the mind of the inquirer that inflammation and lesion of the brain was the immediate consequence of the absorption of the atmospheric poison.

It is possible that, at some future time, I shall resume this subject, with reference to other epidemic disorders; and I may here shortly allude to a disease whose nature (as far as report is concerned) would lead us to believe that it is an example of the poison of the atmosphere acting on a particular structure, after being received into the blood.

Accounts have reached this country of an epidemic disease which has visited Jamaica and the Island of New Providence, but more especially the Bahama Islands; affecting the joints of the body, attacking every class of persons, whether under circumstances of exposure or otherwise, and equally the poor and rich. It has not been fatal, but most extensively epidemic. As I have no personal knowledge of the disease, I should be unwilling to rely on it as an example; but, from the authenticated account sent to this country, it would appear that the poison of the atmosphere, received into the circulation, affected the synovial membranes of the body. If this be true, it is another very strong instance of the action of atmospheric poison on particular structures.

From the London Medical and Physical Journal.

REMARKS ON CERTAIN DISEASES OF THE NAILS AND THE SURROUNDING SOFT PARTS. By G. T. Burnett, Esq.

There are certain diseases of the nails, which, from the little notice they have excited, would seem to be rare, and yet which, from the cases I have already met with, I can scarcely believe to be uncommon. It is true that they do not in general endanger life; still they are oftentimes the cause of great and continued suffering. Can it be that professional pride hath led to their proscription, as too trifling to be worthy the surgeon's notice; and, by excluding them from regular, hath consigned them to empirical practice? or can it be that the unsettled treatment and unsatisfactory results of such cases, have been the cause of this apparently contemptuous silence!

so that they have scarcely, if at all, a place or name in any of our systems of nosology.

Should the following observations on one of these trifles seem worthy a page in your forthcoming Number, the influence of the London Medical and Physical Journal, which has done much for our very important, though at present imperfect, science, may probably induce some of its readers, as opportunity occurs, to turn their attention to an apparently trifling, yet exceedingly troublesome, form of *onychia*[?] which, I believe, is seldom, if ever, mentioned. Indeed, I scarcely know if I am justified in thus designating the cases to which I refer, as they decidedly possess not either the history or characters of the true or common whitlow. Megonychia, or Onychia ulcerata, might be less exceptionable terms; and, as Paronychia is not only the most familiar, but also the best name for true whitlow, Onychia, often used as a synonym therewith, might not improperly include the two.

The letter of your Paris correspondent, published in the Number for December last,* well describes the severe and painful operations resorted to for the cure of onychia maligna, and some of the cases thus called I cannot but think are cases of onychia ulcerata, such as I am going to describe, rather than of the onychia maligna of Mr. Wardrop. If so, the treatment I would recommend is certainly much more mild and simple, though, as far as my limited experience goes, not less efficacious.

The nails, like all other parts of the body, are subject to occasional variations in their form and mode of development, giving rise to preternatural and morbid growths: when these variations are slight, they pass unnoticed; even when greater, if they produce not much inconvenience, they are regarded as harmless monstrosities, rather than disease: when, however, the ordinary duties of organs are disturbed, and especially when pain ensues, the interference of the surgeon is demanded.

The morbid development to which the present observations more particularly refer, is that in which the nail is not only broader than natural, but the sides curve preternaturally downwards, at first compressing, and subsequently entering, the nail bed; causing, in the early stages, pain and inflammation, and afterwards ulcerations, even of a malignant kind. Sometimes the morbid development is of the nail alone, sometimes chiefly of the onythalamus, but most frequently of both: i. e. not only does the nail morbidly incurvate, but the nail bed also is preternaturally enlarged. This disease most commonly affects the feet, especially the great toes: the hands, however, are not exempt, the thumbs occasionally being thus diseased. The detail of a case, however, perhaps may prove the best description.

—— Saunders, a healthy young man, aged twenty, consulted me on account of lameness, occasioned by pain and swelling of the left foot, especially of the great toe. On examination, the toe was found inflamed, being very red, hot, tumid, and painful; the inflammation extended also towards the inner ankle, and laterally over the metatarsus: on any attempt to walk, the placing the foot on the ground produced great uneasiness, and if persevered in, "torture." The right side of the toe was chiefly affected, and from the sulcus between the nail and fillet which bounds the onythalamus there was a semi-purulent discharge; unhealthy granulations had sprung up in the ulcerated cleft; and these, with the ichorous discharge, &c. gave the disease, at first sight, the aspect of onychia maligna.

The previous history was obscure, for it had progressed much, the nail having curved considerably downwards, and the nail bed enlarged, before it produced so great inconvenience as to excite attention. He endured this state of things for some time, suffering more or less, before he sought relief; and then pursued the plan (which I remember being ordered for a similar case, when I was dresser at the hospital,) of introducing pledgets of lint into the cleft between the nail and flesh, thus endeavouring to raise the curvature of the nail, and cause it to overlap the soft parts, instead of the soft parts pressing against its edge. This plan, however, (as I remember also was the case when I dressed the patient before referred to,) caused much uneasiness, without affording any adequate relief: it was, therefore, after a time neglected, and shortly the edges of the nail excoriated the soft parts, and an ulcer was produced; and now the pain on attempting to walk was much increased. The side of the nail was then pared away, which gave some ease; and he had been in the habit, before I saw him, of cutting away the side of the nail with his penknife as far as he could reach; but, as the nail grew, its sharp edge advancing into the tender and enlarged fleshy side of the nail bed, increased the disease, the ulcerated surface became more irritable, and the ichorous discharge before mentioned was the result.

At the first glance, as before stated, this did not look unlike a case of onychia maligna; the sulcus between the nail and soft parts being ulcerated, the ulceration chiefly towards the root of the nail, unhealthy granulations sprouting up at this point, a scanty semipurulent discharge being present, and the surrounding parts in a very irritable state. But the history was totally different; for here the ulceration was the consequence, and not the cause, of the affection of the nail. The other side of the toe gave me a good opportunity, by showing a disposition to the same disease, of watching its progress, and verifying the previous details.

After reducing the inflammation by ordinary means, the ulcerated side was dressed with caustic, &c., and the nail allowed to grow its full width; after which, the attempt was again made to reduce the incurvature of the nail, by placing pledgets of lint between and under its edge and the soft parts; and this was also done from the beginning with the other side. Finding the inconvenience of this plan to be great, and, after a perseverance of several weeks, the benefit, if any, to be very little, some other treatment was to be thought of. Two plans would appear nearly equally feasible: either, 1st, to remove the nail, or at least the incurvating sides, with the corresponding portions of the matrix; or, 2d, to remove the soft parts into which the nail pierced. Had the nail been removed by avulsion, or destroyed by cautery, or dissected out with its matrix, as recommended in onychia maligna, (the operation in this case must have been performed on both sides of the toe, if any part of the nail was to be preserved; and,) to say the least, it would have seemed severe and painful treatment in so apparently trivial a disease. I therefore preferred the latter practice, viz. the removal of the sides of the onythalamus; and, placing the point of a catlin in the cleft, removed at once the side of the nail bed into which the nail entered. The sore soon healed, no cause of irritation being left; and the like operation was subsequently performed on the other side of the toe, with the like result.

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* Vide Journal of Foreign Medicine, Vol. III, page 313.

I fear I have trespassed as far the subject will warrant on your valuable pages, and will therefore only add that, when the toe of the other foot of the same person became similarlarly affected, no time was wasted in palliative treatment, but, by removing the exuberant sides of the onythalamus before ulceration took place, I avoided by anticipation much pain and inconvenience.

Lest, however, I should be misunderstood, let me, in conclusion, state that I am far from thinking this treatment could be beneficial in cases of true onychia maligna, in which (at least as far as I have been able to perceive,) the abscess and ulceration are at and under the root of the nail, the burrowing of which produces the necessity of removing the present nail, but which, the ulceration being cured, would not be injured by the growth of a future one; and, therefore, when I hear of the necessity of dissecting out the matrix, as well as removing the nail, I cannot but think that some cases have been considered as onychia maligna, which in truth were rather onychia ulcerata; as in the former the future growth of the nail would not, and in the latter it would, if the soft parts remained, reproduce the disease.

In a case of onychia maligna, which occurred in a young lady aged twelve, the nail was obliged to be removed, but the matrix was left untouched; the ulcerations were healed, and the nail grew again, but there was no return of the disease, at least not in that finger. This had been a very severe case, and the matrix was so much disturbed that the nail, when reproduced, grew in longitudinal plicæ, or undulations, which, having an unsightly appearance, have since produced much chagrin.

Neither could the removal of the sides of the onythalamus be useful in all cases even of megonychia; for I remember an instance in which the morbid growth and incurvation took place lengthwise, the nail being much thickened as well as curved, assuming an appearance something between an horn and a claw. This monstrosity, which had for years gradually increased, and had twice been cut off, at length was allowed to grow into the flesh, halfway down the first phalanx of the thumb; and, when I was consulted, the parts were in such a state of disease that amputation (which accordingly was performed) promised the only chance of relief.

These cases may seem trifling, and scarce worthy of being placed on record; but, shall splendid volumes be published on the great operations of surgery, which can only by few and on few persons be performed, and shall a transitory notice be denied to lesser ills, which, by the frequency of their occurrence, make up the great sum of human misery?

From the London Medical Gazette.

ABSORPTION BY THE UTERUS.

To the Editor of the London Medical Gazette.

Sir,—Dr. Edward Rigby mentioned to me a few weeks ago, that his friend Professor Naegele had witnessed several instances of the absorption, by the vessels of the uterus, of the retained placenta; and he very obligingly promised to transmit to me, on his return to Heidelberg, a more exact statement of these cases. Yesterday I received a letter from Dr. Rigby, which contains a translation of part of Professor Naegele's letter to Dr. Von Froriep, at Weimar, detailing the particulars as Dr. N. observed them. A case of a similar nature was published a few years ago in one of the English medical journals, but at present I cannot recollect where it is to be found. It was probably supposed to be founded in mistake, for it does not appear to have excited much attention. If you agree in opinion with me that Professor Naegele's cases are sufficiently important to be presented to the public, I shall feel obliged if you will appropriate a few columns of the Medical Gazette to this purpose. I remain, Mr. Editor, your obedient serv't, Sam. Merriman.

Brook Street, Grosvenor Square,
Dec. 30, 1828.

Extract of a letter from Dr. F. C. Naegele, Professor of Midwifery at the University of Heidelberg, to Dr. L. F. Von Froriep, of Weimar, Editor of a periodical publication entitled Notizen aus dem Gebiethe der Natur- und Heilkunde. Communicated by Edw. Rigby, M.D.

During the year 1802 the following case occurred to my notice:—A lady of high rank, in consequence, probably, of a somewhat fatiguing journey, from which she had just returned, was brought to bed between the 24th and 26th week of her pregnancy; the child lived several hours after birth, little hæmorrhage followed, but the placenta did not come away. The cord, which was very thin, had been torn off at its insertion, as far as could be judged from the length of it. The midwife, who was an experienced as well as a highly respectable person, informed me that it had occurred as she passed her finger along the cord to ascertain whether the after-birth were already separated; and assured me that she had not exerted too much force in endeavouring to extract it, in which account the bystanders also agreed.

The lady and her friends were under considerable alarm on account of the placenta not coming away; and the midwife, who suffered not less anxiety for her patient, scarcely quitted the bed-side for the first nine days, and even passed the night in her room, so that the case was watched with the greatest attention.

The lochiæ, which were sparing and devoid of fœtor, and with scarcely any coagula of blood, lasted only four days; a slight attack of fever was experienced 24 hours after delivery, unattended, however, with any pain of the abdomen. The breasts did not swell, the menstruation returned in eleven weeks, and in about three years after she bore a child at the full period of pregnancy.

In another case, in 1811, where abortion had occurred between the 14th and 15th week, from no assignable cause, and with scarcely any hæmorrhage, and which I had an opportunity of observing with the greatest accuracy, the secundines did not come away; a febrile attack came on upon the third day, which soon disappeared; no local pain, no discharge from the parts of generation; the menses returned after nine weeks, and no traces of the placenta, &c. ever appeared.

An experienced accoucher of this place (Dr. Gotzenberger) has had the opportunity of attentively observing two cases of this kind, and assured me positively that he was perfectly convinced that no trace of the placenta had been detected either in a solid or in a partly dissolved state.

January 19, 1828, I was sent for to attend a patient, aged 24, the wife of a respectable farmer, living about 10 or 12 miles from this place. She had been brought to bed of her second child the day before, at eleven o'clock in the morning, and the after-birth had not yet come away. In the afternoon flooding had come on, which had been so considerable as to induce repeated fainting. Dr. Sigel, a physician of considerable experience, and M. Roth, an accoucheur, had been sent for from Ladenburg, and on examination had found retention of the placenta, in consequence of hour-glass contraction of the uterus, which had prevented the hand being introduced for the purpose of separating and bringing it away. Tinct. cinnamon. with a little laudanum, had been prescribed, and warm fomentations directed to be applied to the abdomen, to remove the spasmodic contraction. The flooding returned several times during the night and following day, and the discharge had begun to be very fœtid.

I did not see the patient till thirty hours after delivery; I then found her very pale, the pulse quick, small, and somewhat excited; the uterus pretty firmly contracted, with no marks of hour-glass contraction, but almost perfectly round; the discharge was extremely fœtid, and I could feel a portion of the placenta within the os uteri. From the circumstances of the case, I considered the after-birth as already separated, in which opinion the aforementioned medical gentlemen, and my friend Dr. Rigby (who had accompanied me,) agreed. Having deemed it necessary to remove it, I introduced my hand for this purpose, after experiencing considerable resistance from the contracted state of the uterus, and found the greater part of the placenta firmly attached to the uterus. This circumstance, combined with the obstinate and unruly behaviour of the patient, allowed me to separate and bring away scarcely two-thirds of the placenta; considerably more than one-third was left in the uterus, and the medical men present were convinced of the fact. The hæmorrhage did not return: injections of infus. fol. salv. off. were repeatedly thrown up during the night and following day, but brought away scarcely any coagula of blood. A smart attack of fever followed in about four-and-twenty hours after the operation, with violent headach, full and strong pulse, and considerable increase of temperature; the abdomen was not painful, even upon pressure; the breasts remained flaccid, although the child had been repeatedly applied by my order; and there were no signs of lochia. Almond emulsion, with nitrate of potass, and cooling drinks, were ordered; the bowels were evacuated by clysters, and an infusion of camomile flowers every now and then injected per vaginam. On the third day, however, the breasts began to swell, and a secretion of milk followed, but the child, which was weakly, refused the breast; the fever abated, and the milk again disappeared. She enjoyed perfectly good health till the 27th of January, when the left eye was attacked with inflammation, which, in spite of all attempts to check it, rose to such a degree of intensity, as in a few days to induce opacity of the lens and vitreous humour, with loss of sight in the organ. The menses returned in thirteen weeks after her delivery, in the usual quantity and duration: and at the present time, with the exception of blindness in one eye, she is in perfect health.

This case has been observed with the greatest attention, and the combination of circumstances that may be considered as having caused the ophthalmy, the obstruction to the secretion of milk, and suppression of the lochia, still further induced me to pay particular attention to the nature of the discharge.

As this circumstance interested me considerably, I have endeavoured of late years to excite the attention of several of my professional friends, and at various times have received accounts from them confirming the truth of my observations, both in cases of premature labour, where the placenta had been retained, as also of labour at the full term of pregnancy, where large portions of it had remained attached, where no traces of it either in a solid or half dissolved form had come away, and this had occurred without any injurious consequences.

My friend Professor Sebastian, of this place, having lately returned from a journey to Holland, has communicated to me a most interesting case, which he received from the mouth of Dr. G. Salmon, of Leyden, where, after labour at the full period of pregnancy, the whole placenta had been absorbed, and the case terminated successfully. Dr. Salmon requested him to ask me if a case of this kind had ever come under my notice.

I am far from denying the liability to deception in cases of this sort, and am well aware how extremely difficult it is to form a correct opinion upon them. A comparison of this with processes of a similar nature, more especially with those that are observed to take place in cases of graviditas extra-uterina, and also in animals, and a more elaborate discussion of the subject in a practical point of view, which has engaged my attention for some time, has made me very anxious to avail myself of the experience of others, who may enjoy more extensive means for observation than myself. I have, therefore, taken the liberty of sending you this short and cursory communication, with the request that you will do me the favour of inserting it in your valuable journal.

From the London Medical and Physical Journal.

REMARKABLE CASE OF CORPUSCLES *freely moving both in the Vitreous Humour and in the posterior Chamber of the Eye, and causing the imaginary Perception of Objects.*

On the 17th August, M. Galy, surgeon of the Hospital of Périgneux, consulted M. Parfait-Landrau on the case of M. Audebert, formerly a magistrate, then in his seventieth year, and of a bilio-sanguineous temperament: he was subject to wandering pains, resembling those of rheumatism, and had for several years experienced an alteration in regard to the sight of his right eye, of which he feared the consequences, although the affection had remained a long while stationary. He sees muscæ volitantes, black points, and other images, of various shapes, &c., which have been so well described by M. Demours, in a memoir which he recently read to the Academy.

After an attentive examination of the patient's pupils, which were rather contracted, M. Parfait-Landrau thought that he could perceive certain corpuscles moving apparently at the bottom of the posterior chamber of the right eye, and shining with a sort of phosphoric brilliancy. As these phenomena were new, and of a most interesting description, he did not hastily admit the evidence of his senses, but doubted the correctness of first thoughts; and, on the supposition that what appeared to be in the eye might be really nothing more than the reflection of external objects, (although they were not apparent in the sound eye,) he proposed to the patient and his medical attendant that the pupil should be dilated by the extract of belladonna. The pupil was by this means thoroughly dilated, and MM. Parfait-Landrau and Galy distinctly perceived a considerable number of corpuscles, which in general resembled finely powdered liquorice, and a few had the brilliancy of fine gold dust. These particles moved to and fro throughout the whole extent of the posterior chamber; when the eye became fixed, they descended; when it moved, they were again agitated as before; and thus on in succession.

M. Parfait-Landrau is firmly of opinion that these substances were in the vitreous humour, as they were numerous and sufficiently near to be distinctly seen with the naked eye, although he employed a magnifying glass in his examination of them.

This new discovery of an evident and physical cause for that which the ancients called *perpetual imagination*, which the moderns have since attributed to the state of the internal membranes of the eye, to varicose veins in its humours or membranes, is the more remarkable, as no similar phenomenon is described in any work professing to treat of these matters. M. Demours thinks that one of the causes of these muscæ volitantes is due to the humour of Morgagni, in which he supposes there are small portions which, without losing their transparency, become more dense, ponderous, and refractive. Other practitioners, equally respectable, consider them to be produced by the aqueous humour; and our author allows that they cannot, in every case, result from the phenomenon which is the subject of the present paper. He therefore does not attempt to refute the various opinions to which they have given rise. He agrees with M. Demours in stating that these corpuscula volitantia rise with the movement of the eye, but immediately afterwards fall to its most dependent part, whatever may be the precise position of the eye itself. This curious fact may be readily explained in the present patient, but certainly it is not quite so intelligible in those cases where it is attributed to the development of varicose veins in the humours or internal membranes of the eye. It is alike inexplicable on the supposition that it is the effect of partial paralysis of the retina.

In order that these corpuscles might move about in the vitreous humour, the hyaloid membrane which forms its cells must be first destroyed; the natural consequence of which is a considerable reduction in the density of that humour; and it is well known that this alteration may exist without preventing the other parts of the eye from performing their respective functions. For there is scarcely an oculist in the habit of operating for cataract by extraction of the lens, who has not found in some patients the vitreous almost as fluid as the aqueous humour, without preventing the success of such operations. And thus we see that the crystalline humour may, without evident cause, entirely dissolve within its membranous sac, and occasion no alteration in other parts of the eye.

That, in the case of M. Audebert, these corpuscles which appear to move in the vitreous humour, are not contained in its cells, and do not owe their movement to the undulation of this humour, (if it should be deemed capable of undulation,) is proved by the fact that, when the eye moves, they are seen very distinctly rising from the bottom, and traversing the whole posterior chamber. Again, as soon as the eye is stationary, they are seen descending to their former situation; upon which the eye becomes clear, and the patient no longer perceives the muscæ volitantes.

This is certainly a singular phenomenon; but it might, perhaps, have been occasionally observed if the pupils had been always artificially dilated in the examination of similar cases.

M. Audebert reads with the affected eye, and feels no pain in it: the pupil duly contracts and dilates, and all the parts of his eye, the vitreous humour excepted, present no morbid appearances.

Four days after the first investigation, the eye was again examined in the presence of MM. Galey and Renaud, surgeons, and of Dr. Vidal, member of the medical jury of the department, and head physician to the hospital; all of whom testify to the truth of the above statement.

From the London Medical and Physical Journal.

INQUIRIES RESPECTING THE EFFICACY OF THE OIL OF TURPENTINE IN THE TREATMENT OF NEURALGIA, AND PARTICULARLY OF SCIATICA. By M. Martinet.

Turpentine was employed many ages ago in the treatment of diseases of the nerves. It was used by Galen and Michael Doringius in the form of a plaster; Scultet exhibited it successfully in wounds of the nerves; and Bonnet had even the good fortune to cure a patient of neuralgia by the essential oil of turpentine: but Archibald first brought it into notice as a remedy for sciatica. Having informed Cheyne of the success with which he had employed it in this disease, the latter recommended it to Home, who afterwards published, in his "Experiments and Facts," seven cases in confirmation of the practice. Since that period turpentine has been employed in the above mentioned diseases by many physicians of different countries; by Helst, Thilenius, and Lentin, in Germany; and by Recamier, De Larroque, Dufour, and Husson, in France.

M. Martinet affirms that little benefit is to be expected from the employment of the oil of turpentine, without due attention to the mode of administering it. It has been exhibited in various proportions, and in very different ways, but he decidedly prefers giving it internally, and in small doses of twenty drops three times daily, in order that its absorption may be the more gradually but thoroughly effected. In larger doses it is liable to occasion diarrhœa, by which its peculiar properties are rendered unavailing. The oil of turpentine, when thus given in scruple doses, and in some proper vehicle, such as honey, syrup, or (what is still better) in magnesia, by which its acrid taste is more completely disguised, produces a strong sensation of heat in the stomach and whole intestinal tube, as well as in the diseased nerve and limb; and sometimes it even occasions a general sweat. In certain individuals it causes a slight colic or a mild diarrhœa, and, more rarely, either a dysury or an increased flow of urine. But when a drachm of the medicine is taken instead of a scruple, intense colic, diarrhœa, and even vomiting, supervene; yet these formidable signs of irritation, both of the digestive and the urinary organs, generally disappear as soon as the medicine is intermitted. In patients whose stomach and bowels are irritable, a small quantity of opium is found a useful addition to the turpentine, by moderating its stimulating effects on the mucous membrane of those parts.

When the oil of turpentine is administered in the manner and quantity just described, it would seem to be particularly powerful in the removal of sciatica; yet, as M. Martinet suggests, this opinion may have arisen from the greater frequency of this complaint. Be this as it may, its efficacy is also remarkable for curing other species of neuralgia which affect the extremities.

When we attempt to deduce from the phenomena which follow the exhibition of the oil, the mode of its operation, and the cause of its being efficacious, we cannot refer the latter either to its purgative, its diuretic, or its sudorific effects; since this augmentation of the different secretions is neither regular nor constant in its occurrence, and never bears any proportion to the benefit derived by the patient. Besides, we daily see patients who are purged, sweated, &c. much more abundantly by other medicines, without deriving the least benefit: and it was this reflection which led Home to attribute to the oil of turpentine a specific influence over sciatica.

Some physicians have supposed that this medicine produces its sanitary effects on the nervous system by causing a revulsion from the brain to the stomach and skin; but M. Martinet thinks he has clearly shown in his Essay that these effects are almost always missing, even in cases of recovery: and he, therefore, will not admit this explanation to be correct. Others, on the contrary, attribute its efficacy to a revulsion on the nerves, which is sympathetic with that of the stomach.

M. Martinet, however, conceives that the stimulation which this oil communicates to the mucous membrane of the stomach is equally produced in the nerves affected, and to a greater or lesser degree, in proportion as they are more or less morbidly affected; which, in his opinion, serves to explain the fact that this medicine is more efficacious in severe and obstinate, than in mild and recent cases of neuralgia. The new modification which is thus effected in the state of the nerve would seem, therefore, to dispose it to resume its natural action, that of health. The heat which the greater proportion of those persons who are either cured or relieved feel in the affected parts, seems to confirm the explanation adopted.

As to the question whether the turpentine acts directly on the nerves by absorption, or exerts its influence over them indirectly and sympathetically, through the medium of the stomach, we are most inclined to adopt the first of these hypotheses: and we found our opinion on the fact that this oil is nearly always observed to fail in curing those cases of neuralgia where it produces violent purging; which is also true in respect to all other substances employed in this disease, and whose only effect is to irritate the mucous membrane of the stomach and intestines. Its action on the urinary organs would appear to be seldom useful, but, on the contrary, often injurious.

As an external remedy, turpentine seems most beneficial when rubbed in by the hand: it thus produces redness of the surface, without exciting a sensation of heat along the course of the nerve. But the strong and penetrating odour of the oil, when exhibited in this manner, not unfrequently occasions headach.

This medicine is of approved efficacy in all cases of neuralgia affecting the extremities, and particularly in sciatica, when this disease is simple in its character, and evinces no sign that the nerve is either altered in its structure, in a state of inflammation, or compressed by the formation of a contiguous tumour. M. Martinet affirms that, whether the complaint be recent or otherwise, the chance of cure by this remedy is greatest, *cæteris paribus*, when the pain is so intense as to indicate distinctly the course of the nerve, and so obstinate in its nature as to yield to no other treatment whatever. But it is necessary to pay attention to the state of the stomach; for, in case it should not be perfectly sound, the medicine must be immediately intermitted.

Twelve days usually suffice for curing neuralgia when it affects the extremities, and, more commonly, only half that time; and the exhibition of this remedy during a longer period would therefore be injudicious, and detrimental to the organs of digestion.

That the reader may be enabled to judge for himself respecting the correctness of the doctrines above advanced, we shall terminate the present paper by giving a brief analysis of the various observations which M. Martinet has included in his essay.

Of seventy individuals affected chiefly with sciatica, and other kinds of neuralgia of the extremities, fifty-eight were cured: viz. three by rubbing in the oil, and all the others by taking it internally; ten, two of whom prematurely intermitted the medicine, obtained only temporary relief from its use; and five received no benefit. Of these five, two had diseases of the joints, of which they died a few months afterwards.

Of these seventy-one cases of neuralgia, (for one of the patients had two affections of the kind,) forty were acute, and thirty-one chronic. Of the forty acute cases, thirty-four were cured, five relieved, and only one continued in the same state. Of the thirty-one chronic cases twenty-four were cured, three relieved, and four received no amendment.

Again, of the seventy-one cases of neuralgia, thirty-three had resisted the effects of divers remedies; and, of these thirty-three, twenty-five were completely cured, four were only relieved, and four more remained uninfluenced by the medicine.

Of the fifty-eight cases of neuralgia which were cured by the oil of turpentine, thirty-four were cured in less than ten days; twenty-two in less than twelve days; and three within the space of from twenty-eight to forty-five days.

Of the same fifty-eight cases which were cured, forty-eight were cases of sciatica, two of which were cured by frictions; three were cases of crural, four of brachial, and three of facial neuralgia.

Of the ten patients which were only relieved, two were affected with sciatica, and their treatment was intermitted on the second day.

Finally, of the five in which the treatment entirely failed, there were four cases of sciatica, and one of crural neuralgia. Two of the four died of disease of the hip-joint.

In twenty-one instances it is recorded that a sensation of heat was experienced along the course of the nerve, and in the affected limb; and of these, nineteen were perfectly cured; the other two, having intermitted the treatment, were only relieved.

In eighteen cases a sensation of heat was felt in the intestines, and especially in the stomach. Three were seized with vomiting, in two of whom it was occasioned by a too powerful dose of the oil, namely, two drachms.

Three suffered from diarrhœa and severe colics; and in one instance the inside of the patient's mouth was affected with vesicles.

In five cases the urine was more abundant than natural; and four were attacked with strangury. Two of these had taken too large a dose.

In ten patients there was sweating over the whole body, and in two instances it was confined to the member affected.

And, lastly, one woman, affected with neuralgia, was, as it were, intoxicated by the turpentine; and two other patients experienced the sensation of itching throughout the whole body.

From the Medico-Chirurgical Review.

THE MORBID ANATOMY OF THE BOWELS, LIVER, AND STOMACH, *Illustrated by a series of Plates, from Drawings after Nature, with explanatory Letterpress, and a Summary of the Symptoms of the Acute and Chronic Affections of the above named Organs.* By JOHN ARMSTRONG, M.D., &c.

[Fasciculus the Second.]

In our last number, we gave a full account of the first Fasciculus of Dr. Armstrong's splendid work. We now proceed to an analysis of the second, the plates of which are numerous and beautiful—indeed, too beautiful, the common and universal fault of all pathological representations.

The talented author observes, in the opening of the present Fasciculus, that Morbid Anatomy shows four prolific causes of disease (they are the diseases themselves)—inflammation, tubercle, fungus, and scirrhus. The effects of inflammation have been portrayed in our first article, to which we may refer.

"With respect to tubercle, it hardly ever attacks the stomach, except it be now and then seen in the serous membrane, where the peritoneum has been studded, by that deposition, in points. But fungus and scirrhus are not uncommon in this country, sometimes seated about the œsophagus, aud sometimes about the stomach, and not unfrequently, either the one or the other is found in both these parts in the same case. Simple inflammation, however, by which is meant inflammation uncombined with any of the above mentioned peculiar formations, sometimes attacks the œsophagus, and may lead, like fungus and scirrhus, to stricture there; though it must be confessed, that such an occurrence far more often depends on those adventitious structures, than upon the thickening which results from simple inflammation, and which is displayed in one of the drawings made from a recently fatal case. The very few cases of stricture of the œsophagus which I have seen to depend upon inflammation alone were not seated about the cardia, but higher up in that canal; whereas in those which have fallen under my observation as the effects of fungus or scirrhus, the stricture was mostly in the vicinity of the cardia. In three or four cases, I have known less or more obstruction to arise about the pylorus, from the thickening of its cellular membrane through simple inflammation; but what is usually called stricture of the pylorus depends upon the presence of fungus or scirrhus, and my own dissections would authorize me to conclude, that fungus of the cardia, stomach, and pylorus, occurs quite as frequently as scirrhus in those situations—a fact which has not, perhaps, been sufficiently attended to by authors who have expressly written on morbid anatomy.

"Both fungus and scirrhus seemingly attack almost every variety of structure, yet, from the attachment and derangement which each effects in the surrounding parts, during their growth and destruction, it is often difficult, and even impossible to fix upon the precise texture in which the disease had commenced. But indisputably the cellular connecting membrane of organs is the most common seat of both these extraneous productions, especially with reference to the œsophagus and stomach; though some minute examinations would induce me to infer, contrary to the opinion of some of my friends, that the true fungus encephaloides occasionally springs from a mucous surface, not only of these, but of other organs.

"The great alteration of structure, then, and consequently of office, in the œsophagus and stomach results from inflammation, fungus, or scirrhus, and this remark is singularly applicable to what is called stricture, which sometimes, however, has a truly spasmodic character in the œsophagus, as shall be shown in the detail of the symptoms connected with those morbid appearances, which the plates of this Fasciculus are intended to elucidate." 50.

STRICTURE OF THE ŒSOPHAGUS FROM SIMPLE INFLAMMATION.

This form of stricture is rare. It may take place either under the pharynx or near the cardia, and is preceded by signs of irritation of the mucous membrane of the stomach, such as flatulence, acidity, epigastric uneasiness, redness of the point and margin of the tongue, prominence of the papillæ.

"In instances of this sort, more or less redness is discoverable about the fauces and pharynx; for, though the irritation commonly begins in the inner lining of the stomach, it is a striking fact, that mucous membranes are apt to suffer secondarily toward their extremities. Hence the frequency of sympathetic inflammation about the fauces and the pharynx of those whose stomach is out of order from mucous irritation; and this view of the subject is so important, that little impression can be made in chronic inflammation of those parts, unless the original remote disorder be constantly regarded in the plan of treatment. If the inflammation arise under the pharynx, some degree of pain and impediment in swallowing exist there, with an increased secretion from the throat; and the increase or diminution of these symptoms mark the advancement or subsidence of the inflammation, together with the declension or improvement of the general health. It must be borne in mind, that chronic inflammation about the epiglottis, rima glottidis, and pharynx, gives rise to great uneasiness in the act of deglutition; but such cases will be discriminated, first, by the hoarseness, peculiar cough, and the other signs which mark a laryngeal affection; and, secondly, by the sense of suffocation produced by every attempt to swallow any thing irritating the epiglottis, which then frequently performs its office imperfectly. During the progress of stricture of the œsophagus from inflammation, it is accompanied by a sense of heat and uneasiness in the posterior part of the mouth, and also by difficulty of swallowing, a copious secretion of saliva, slight cough, and ultimately some degree of dyspnœa. If ulceration take place, almost all the symptoms are aggravated, and in the attacks of nausea or retching, a tenacious mucus is ejected, sometimes mixed with pus or blood. Ulceration of the œsophagus occasionally proves fatal by excessive hemorrhage, and I have known the same event happen from ulceration of the stomach. But if the patient should not be thus suddenly carried off, great emaciation takes place, with fever of a hectic type, and a little before death, there is often feebleness, and even aberration of mind, as is seen in most instances where patients die from inanition." 62.

Spasmodic stricture of the œsophagus reveals its true character by the suddenness of its accession and retrocession. It is most common in nervous individuals, and hysterical females. In some dissections, Dr. Armstrong has found the cardia reddened, thickened, and softened, apparently from chronic inflammation, and on tracing the history, it appeared that the patients had had a sense of uneasiness and obstruction in that quarter during the passage of solids or fluids. This sense of obstruction, however, is very common where no organic change can be going on in the part, especially among females of nervous temperament.

STRICTURE OF THE CARDIA FROM FUNGUS OR SCIRRHUS.

These two diseases cannot be distinguished by symptoms during life. It may be borne in mind, however, that scirrhus most frequently occurs after the age of 40 years—and that fungus may attack at any period of life. The progress of fungus may be expected to be more rapid than that of scirrhus—but no certain diagnosis can be made, unless some of the encephaloid matter should be ejected during the softening and destruction of the tumour —which is not a very common occurrence, the patient often dying before the morbid growth has arrived at this stage.

"The symptoms which most unequivocally indicate fungus or scirrhus about the cardia are, uneasiness there, impediment and pain in the deglutition of food, as if it rested or stuck at that point, and a ropy secretion from the fauces, with occasional nausea, and retching. Regurgitation of solids or liquids is not unfrequent during or after meals. In the course of either complaint, the surface becomes of a sallow, sickly hue, and has a withered aspect and feel; while the flesh wastes in proportion to the progress of the disease, the skin at last becoming dry, loose, and wrinkled, through the absorption of fat from the subjacent cellular membrane. It may be here remarked, that less emaciation generally attends fungus than scirrhus, supposing each exist separately and independently of the other. This circumstance may proceed partly, perhaps, from the more rapid progress of fungus; and when this state supervenes or attends scirrhus, the case usually terminates more speedily than when scirrhus occurs alone.

"The matter ejected from the œsophagus in the first stage of scirrhus very often closely resembles a mixture of arrow root in hot water, and even, when softening takes place, it frequently has a similar appearance; but where ulceration advances, it is apt, occasionally, to be blended with a bloody or ichorous discharge, or with coagulated blood itself, while lancinating pains succeed, great distress, fever, colliquative sweats, and much emaciation." 63.

STRICTURE ABOUT THE PYLORUS FROM THE ABOVE DISEASES.

The symptoms of this dangerous malady are extremely obscure for some time, especially when the disease is scirrhus, for then they form more insidiously, and advance more slowly, than when fungus is seated in that part of the stomach.

"One of the first signs is a feeling of uneasiness in the direction of the pylorus, which is the most apt to be felt after bodily fatigue, during anxiety, or after an unusually full or indigestible meal. The common train of dispeptic suffering follows, namely, flatulence, irritation, sense of fullness or weight in the epigastric region, with depression of spirits or fretfulness of temper, and the complexion gradually acquires the cast of sickliness, and the patient loses flesh as well as colour. At length, on any extraordinary exertion, either of body or mind, nausea, retching, or vomiting unexpectedly takes place, and the quantity of fluid matter ejected frequently exceeds that which had been taken; but this irritability of the stomach is most liable to be displayed when, the mind being over-wrought, or the body fatigued, some solid or liquid material shall offend the stomach. At a further stage, the patient feels what he calls a forcing pain, or pain and pressure in the region of the pylorus, as if the contents of the stomach met with a resistance at that point, when the organ acted to propel them into the intestines. This symptom generally occurs an hour or two after a meal, and is one of the most certain indications of stricture of the pylorus, increasing as the disease advances, together with the irritability of the stomach, and the loss of flesh and strength. In my own practice, I have only met with one exception to this remark, and in that case the patient never complained of urgent pain, never vomited in the course of the disease, but then he instinctively took extremely small quantities of food at once, and that of the blandest description. Solid animal food commonly excites the most uneasiness, and is often followed by eructations of an offensive taste, rolling of wind as if confined in the stomach, with a sense of rising or choaking in the throat. On some occasions I have known macerated shreds of mutton or beef brought up several days after a meal of one or the other. Lassitude and languor increase in such examples, and the heart generally becoming much attenuated, the pulse is very feeble, and sometimes the patient is liable to feelings of faintness, more especially on exertion of the body. In scirrhus, the matter which comes from the stomach is generally like arrow root mixed with hot water, or ropy like an infusion of lint seed, whereas in fungus it commonly has a more curdly character—an appearance which may sometimes assist in the discrimination of the one state from the other; but in both the ejection of a glairy or grumous liquid may considerably exceed the quantity of fluid which had been drunk. Sometimes however, fungus, but particularly scirrhus, may exist, about the pylorus or central portions of the stomach for two or three months before vomiting takes place—a fact which should be remembered in the investigation of the seat of such affections." 64.

Dr. A. observes that, in all cases of strictured pylorus he found great emaciation, but that the case of Bonaparte was an exception. We believe Napoleon's stomach was generally affected with scirrhus, but that there was no particular stricture of the pylorus. Amongst the causes of this dreadful disease, Dr. A. properly ranks mental anxiety.

"Most of the ancient philosophers lived to an extreme old age, their pursuits being so benevolent and their thoughts so innocent as necessarily to lead to mental serenity; but Napoleon was not a philosopher, and though he attempted to govern the whole civilized world, had so little command over himself, that he allowed his mind to be incessantly disturbed even by little things, especially towards the close of his career, and thus, probably, at last converted an hereditary tendency into a destructive disease." 65.

FUNGUS OR SCIRRHUS OF THE STOMACH BETWEEN THE CARDIA AND PYLORUS.

It has been remarked, that when the stomach is universally affected with organic disease, there is often less functional derangement than when a small portion only is affected. Dr. A. is inclined to agree in this remark. This, indeed, was the case with Napoleon. The real disease was not suspected before death—as the liver was the organ supposed to be diseased.

"When fungus or scirrhus attacks the central parts of the stomach, the most pathognomonic symptom is pain after any thing has been eaten or drunk, the history of the case not corresponding to that of simple inflammation of the mucous texture, in other respects. For instance, the tongue is not so preternaturally red in general, but surprisingly natural for the most part, considering the permanency of the character, and the progressively deep impressions of the disease. The appetite too, is, in general, not prostrate as in chronic muco-gastritis, for, on the contrary, the patient usually longs for this or that kind of food, but his taste is so capricious, that if the practitioner regulated it to-day, the restriction is sure to be violated to-morrow, or shortly afterwards. The pulse is not above par in power or in frequency, as in chronic muco-gastritis, for a considerable period from the accession of the complaint: indeed, in the majority of examples it only becomes so on the solution or breaking up of fungus or scirrhus, when it frequently happens, that the circulation is disturbed by a sort of febrile commotion. From first to last there is a wasting of the flesh, and a loss of colour, with occasional attacks of nausea, retching, or vomiting, particularly on exercise, over-exertion, or indulgence of appetite; and now and then a tenacious fluid is thrown from the stomach, which, in the last stage of softening, is usually mixed with a dark, acrid, or offensive matter, as before described. An examination of the epigastrium, by the fingers, may sometimes detect hardness and swelling, so as to lead to the presumption, that organic disease exists in the stomach; but such irregularities, even when present, are not always tangible through the integuments, and therefore we should rather rely, conjointly, upon the past history, and the present concourse of uneasy feelings, and interrupted functions, with reference to the stomach. Upon the whole, I should say, from my own experience, that more pain generally attends scirrhus than fungus of this part, particularly towards the conclusion, and at that time a sensation of frequent faintness is not uncommon, with a tumultuous feeling or oppression about the heart, as often happens in affections of the pylorus. In almost all great organic derangements of this nature seated in the stomach, a distinct and even strong pulsation is felt in the epigastrium, a symptom which, perhaps, may arise from the pressure of the morbid mass upon the cœliac artery or abdominal aorta; but whatever may be the explanation of this sign, it will be found one of the most constant in the progress or towards the conclusion of scirrhus or fungus of the stomach, and wherever it exists, in conjunction with a sallow surface, irritability, or other uneasiness of the stomach, and loss of flesh, fungus or scirrhus of that organ may be fairly suspected." 66.

The difficulty of recognising the existence of these diseases is sometimes sufficiently obvious—but the distinction of scirrhus from malignant fungus we believe to be little more than guess-work. Fortunately it is not of very vital consequence, as to treatment. With the following extract, the work, and our analysis of it, conclude.

"There is something forcibly striking in the expression of the countenance and colour of the skin in most great organic diseases. Thus, in tubercular disease of the lungs and elsewhere, the lucid cornea becomes more glary and the conjunctiva more blanched and pearly than natural, with a softness and almost pensiveness of expression; while the face grows more and more sharp, and the surface acquires a much more delicate hue, as is exemplified in the hands, which are then remarkably white, the prominent veins wandering across them, like fine blue lines through pure marble. Again, the expression in scirrhus considerably advanced, is that of more or less solicitude, and the skin commonly has a sallow tint, like that of the pale yellowish willow; whereas, the cast of the countenance is less materially affected in fungus, and the skin has neither the delicacy attendant on tubercle, nor the sallowness attendant on scirrhus, but is often of a dull muddled white, almost resembling that of common tallow or painters' putty. It is indeed difficult, nay impossible, to convey in words very precise descriptions of the varieties of expression and colour; but there is, nevertheless, some change about the face and skin which often at first sight, leads an experienced eye to suspect the presence of deep visceral derangement. Yet every prudent man will not be guided by first impressions, but pause and accurately investigate all the particulars of the case, and then deliberately reflect upon them, in order to legitimately deduce a correct opinion. The intelligent pathologist will be especially on his guard not to confound the ventricular disturbance and sallowish aspect of the sedentary and studious dyspeptic with any organic disease of the stomach; for, though in such persons the face be 'sicklied o'er with the pale cast of thought,' yet it is most frequently an indication merely of a disorder, which admits of a ready remedy, and which, even if continued under the same character, may not at all shorten life." 68.

The plates in this fasciculus are five in number, beautifully executed, and highly expressive of the scirrhous, fungoid, and ulcerative diseases, that affect the œsophagus, cardia, gastric parietes, and pylorus. Doubtless the colouring is, in most of the plates, much too high; but, as we have often said before, this imperfection appears to be inseparable from pathological drawings. The uncoloured plates are, in fact, much more faithful than those which are embellished by the pencil; so that it may be truly said of them, that when unadorned, they are adorned the most. It does not appear that the treatment of these dreadful diseases came within the scope of the work, as nothing is said of it in the second fasciculus. But what, in truth, can be said on such a hopeless subject? It is of great consequence, however, to be able to say whether there is, or is not, organic disease in any given case. The dangerous process of POLYPHARMACY may thus be deprived of its horrors, and the remedial art be prevented from becoming the instrument of destruction. We hope Dr. Armstrong will persevere in portraying the organic maladies to which flesh is heir, in a style which does infinite honour to the pencil of Mr. Cox, and the lithographic press of Mr. Fairland.

From the Medico-Chirurgical Review.

AN ESSAY ON THE REMITTENT AND INTERMITTENT DISEASES, INCLUDING, GENERICALLY, MARSH FEVER AND NEURALGIA, &c.

By JOHN MACCULLOCH, M.D. Two Vols. 8vo.

ART. III.—NEURALGIA, TIC DOULOUREUX.

We have now arrived at the second, or rather the third, volume, of Dr. Macculloch's work, (for the volume on Malaria may be considered as the first) and the important subject of NEURALGIA presents itself, occupying the whole of the volume. This distressing malady, or class of maladies, divides itself into so many forms, and assumes so many questionable shapes, that it will require two or more extensive articles to trace it through its ramifications. Nor do we think the pen of author or reviewer can be more profitably employed than on such a task.

It is now a considerable number of years since Dr. M. treated neuralgia as a mode or variety of intermittent—a doctrine not generally, if at all, adopted by the profession at large.

“ In the disorders which I am about to enumerate, some have been considered as independent diseases, arising from very different causes, while, of these, there are a few which have even established an independent character almost as ancient as physic itself.

“ Others have been viewed as symptoms of some disorder, but not of this one; while others again have been considered as trivial, or else inexplicable; mysterious cases occurring once in an age, and out of the common rules of physic: while, still further, a few have been viewed as the produce of external injury; mechanical solutions of continuity or derangements of structure. Under such a confusion of names and opinions, I had no resource but to form an entire new arrangement, by creating apparently new diseases and forming new terms, or else to abolish old and received diseases with their names, treating them as varieties, or lastly, at least presuming to treat as Neuralgiæ, under their old names, those varieties which were already named, and to suffer the others to remain as nameless as they have hitherto been. And this plan, as the least offensive, I have adopted." 5.

I. NEURALGIA OF THE FACE—TIC DOULOUREUX.

Heberden and Fothergill appear to have been the first to allude to the disease in this country, though the term tic douloureux originated with André, a French surgeon, who also proposed the division of the nerve, in 1756. The public then considered it a new disease—and still think it a rare one:—"But it is neither new nor rare." The term alone is new. The apparent rarity is thus accounted for by our author.

“ To be noticed as a case of this disease, the pain must be excessive, and must also be limited to a peculiar part of the face; and further, it must be found in the opulent, or in those who, little accustomed or willing to bear pain, fly to physic for relief, and thus call attention to themselves and their cases. There are thousands who suffer from it, under forms less marked; and thousands, in the middling and lower classes, who endure it, even in its worst form, but of whom the public never hears. He who will thus seek it out, will soon be convinced of the truth of this assertion, as I have long since been: and though he may find a much greater number of the cases not decidedly marked by the strongest and most peculiar features of this disorder, and therefore not known by this new popular term, he will be singularly unfortunate if he does not also meet many, of the best defined and most intense character, generally endured as best they may, and seldom forming objects of attention to the great mass of practitioners." 8.

We are quite convinced of the truth of the above representation. In a single, and not very extensive tract, in this country, Dr. M. has been able to collect not less than a hundred cases among the labouring classes. The names under which the disease formerly went, before the term neuralgia came forth, were probably rheumatism of the face—affection of the antrum—clavus hystericus—toothach—periodical headach—wandering gout, &c. The term neuralgia is certainly more scientific than tic douloureux, and more useful, inasmuch as it points out a road to a generalization, which has certainly been slowly taken advantage of by physicians. In this place, Dr. M. passes a just censure on that system of sparring which has lately been kept up between the medical and surgical branches of the profession, as if there was any real division in nature between the two. But the physician is taught to abhor the knife—while the surgeon despises the Pharmacopœia. Dr. M. accuses surgery of keeping back a knowledge of neuralgia, by the attempt to insulate the disease from its proper connexion with the general health—in other words, to cure it by the scalpel. The division of the nerve, however, is now so universally given up, that we need not waste time on its condemnation. That the pain of neuralgia is not confined to any particular nerve, or class of nerves, admits now of no doubt—not even excepting the ganglionic nerves.

"I need scarcely say, that, in this disorder as it stands in the popular acceptation, the pain is most severe; being probably as great, often, as the nervous system can endure: since all the surrounding objects sometimes disappear before its violence, or it deprives the patient of all other sensations; in vulgar language, of all his senses; frequently also inducing absolute delirium, as I just noticed; an effect rarely occurring from any other pure pain than the inflammation in the bowels. This extremity of pain is commonly instantaneous in its attack; resembling very much, in this respect, the electrical shock; and most generally it is similarly transitory, coming on in repeated fits during the continuance of the entire paroxysm. It is not, at the same time, always the sole pain; since a general painful state exists through the whole paroxysm; sufficiently severe, should it be the only one, as it often is, but appearing almost pleasure, when contrasted with the more acute shocks of the nerve." 16.

During this state, the integuments, or rather the whole surrounding parts, become extremely irritable, or tender to the touch—generally more so from light than from firm pressure. It is not unusual to find a vascular turgescence accompanying the pain, which might, *à priori*, be expected, on the principle, "ubi stimulus ibi fluxus." This turgescence, indeed, sometimes amounts to a species of inflammation, resembling that of rheumatism—an analogy that it may be useful to bear in mind. As the pain ceases, the general soreness rather increases, and often remains for a good while, leaving the patient in comparative health, or, more frequently, in a state of debility.

"Such is a simple and ordinary case of a paroxysm of this neuralgia; but many accessory circumstances of an equally obvious nature sometimes attend it. Thus, the neighbouring muscles, and even the more distant ones of the limbs, are often affected with spasms, occasionally to a considerable extent; while, not unfrequently, with the usual charity of the healthy, they are attributed to impatience and debility of mind on the part of the patient; as is more especially and certainly the case when these spasms seize on the larynx, producing involuntary cries, or converting the ordinary breathing into audible sounds. In truth, no one is entitled to assume the office of critic on a neuralgic patient, who has not been a patient himself; and, for the cause of charity, it were perhaps to be wished that the disorder were more common, or that a short apprenticeship at least to it, were a more general lot.

"Frequently also, there is an increased flow of saliva, and, much more often, of tears, which, in some cases, almost stream from the eyes; scarcely noticed by the patient, but not so by the by-standers, always ready to attribute to mental weakness, what, in this case, is a mere increase of secretion from disordered excitement of the glandular nerves, forming, in fact, a peculiar variety or modification of neuralgia which I shall have occasion hereafter to point out more distinctly. And if it is an episodical remark, I know not where better I can introduce it than here; that in patients who have suffered severely from neuralgia under any of its forms, if the lachrymal glands have once been materially affected by the disease, they rarely recover their healthy state: and thus, that tears continue to be, not only easily excited in those who scarcely knew, before that, what it was to shed one, but that they frequently occur, and even in streams, without any mental cause at all, and not uncommonly in sleep, though no dreams are present, or at the hour of awaking; often lasting a considerable time, and producing no small inconvenience." 18.

Lastly, there is often a sympathetic affection of other and distant nerves, where anatomy can trace little connexion, except through the medium of that common centre, the brain.

The ingenious author now goes beyond the surface of things, and examines into certain less obvious characters of the complaint, which help to shed light on the real nature of the malady.

"Immediately before the attack, if the pulse is examined, it will be found to put on that character which it possesses in the cold stage of an intermittent; while, through the progress of the paroxysm, it passes through the other analogous changes. If also a watchful patient, at least when directed to do so by his physician, (which I fear has rarely been the case,) attends to his previous feelings, he will find that there are most commonly some indications of a cold stage, generally obscure, it is true, as is the case in most of the anomalous and chronic intermittents, but still discernible: while doubtless it may sometimes be wanting or difficult to make out, as is so often the case in such obscure intermittents. When most distinct, it is like the sensation of cold water applied to some part of the face, or trickling over it, being indeed often thus described by patients; or there may sometimes be a sensation of cold, more general, if also transitory. The skin, at least of the face, also becomes pale and shrunk, with that peculiar physiognomy attending ague, so indicative of all these diseases, if so perpetually overlooked: and this is a symptom which, if unnoticed by the patient, ought never to escape the eye of an observing physician, explanatory, and often useful as it is. Occasionally, this paleness is local instead of general; and I have seen cases where I could pronounce that the paroxysm was threatening, from one side of the face turning suddenly white while the other retained its natural aspect and colour.

"If this is the cold stage of this particular intermittent disease, the fit of pain appears to belong to the hot one, or thus at least has it always seemed in my experience: and if, as a hot stage, it is not a very marked febrile state, it is sometimes sufficiently apparent, in an increase of heat, local if not general, in the change of the pulse, and in a thirst which occasionally accompanies it. And if it is a slightly-marked hot fit, it is not slighter than that which often occurs in chronic intermittent when other kinds of local symptoms are present, or even when the cases are pure; while in such cases, as well as in this and other neuralgiæ, the sweating stage is rarely well marked, or is perhaps only discovered by the facility with which that effect is produced by exertion." 21.

Thus Dr. M. has described a paroxysm of neuralgia as resembling that of an obscure or chronic intermittent, with the superaddition of its peculiar pain, or local affection of a nerve. It yet remains to examine what resemblance the general course of the disease bears to the common or simple intermittent.

There are two forms of this, as of other neuralgiæ—the acute and chronic—new or habitual. The chronic and habitual is, like all intermittents, far less regular than the former. In the recent state, the pain returns in distinct and defined paroxysms, leaving an interval of health. These returns are generally quotidian, rarely tertian or quartan. But when the disease is of long standing, the regularity is much less distinguishable than even in common or anomalous ague—"with the single exception of the affection of the heart." This irregularity, however, may be more apparent than real. How seldom are complaints accurately watched, and faithfully recorded. Sauvages relates a case where the pain recurred every eighth day, and lasted 30 hours. It was in the temporal muscle, and was denominated by Salius the *hemicrania lunatica;* the entire duration of the disease being three years and a half. Why the recurrences of neuralgic affections should be less regular than other kinds of periodical disorders, our author is unable to explain. The PERIODICITY not being expected, is probably not observed or noticed as carefully as it should be.

"Even should the nerve be affected at the habitual period, that affection is not always a fit of the violent pain. On the contrary, it may be a very slender one, scarcely noticed by a patient used to much greater suffering; or it may appear as a toothach, or a headach, or what is called a rheumatic pain of the face: and thus, although really a paroxysm of the disease, may deceive both patient and physician; and most of all when, as in the cases last enumerated, it will admit of some common or vulgar name. Such in fact is the character of the neuralgia, in whatever place situated: and the fundamental error here has been founded on that to which I formerly alluded, namely, the assigning it a name expressive of violent pain, and the separating this particular variety from all its analogies and variations. Such are the endless errors produced by ill-chosen terms, and by giving to such terms an improper value. And still further, as I shall hereafter more decidedly show, as this disease is but a mode of the intermittent, it may be exchanged for or replaced by a common paroxysm without any local pain; while even that paroxysm may be so slight as to attract little notice from any one, and least of all from a patient accustomed to much keener sufferings." 26.

When of long standing, however, it becomes, like every other chronic intermittent, a truly irregular disease. It may come as a single attack in the midst of weeks or days of repose, excited by some occasional cause —or it may, in the same way, adopt any modes of irregularity.

Such is the general character of the facial neuralgia—a character that applies to all the varieties of this, as well as of the other neuralgiæ.

VARIETIES.—I. PERIODICAL HEADACH—VERTIGO.

This disorder is of such frequent occurrence, that every man's experience must furnish abundance of examples. Its periodicity is acknowledged—it is generally cured by the remedies employed for ague—and yet its connexion, in an etiological point of view, with the latter disease, is little, if at all suspected.

"I could quote," (says Dr. M.) "physicians of the highest note, who had submitted to it in their own persons for a long life, even in its most marked and regular form, the tertian, without adopting the obvious plan of cure, and even arguing to the last against the present view of its nature." We think they must have been desperately fond of a disagreeable companion, who would neglect bark, arsenic, and change of air, on such an occasion. Dr. M. considers the present disease as a connecting link between ague and tic douloureux—more nearly allied to the former than the latter, as being void of that acute and dreadful pain, so characteristic of the high grades of neuralgia. The periodical headach, Dr. M. observes, may possess any of the types of intermittent. He has seen it as a double quotidian, as a single one, and as a tertian. He has never said that all the disorders collected under the head of intermittent, must, of necessity, arise from malaria—though he has tried to prove that this poison is often present where it is not suspected. We are certain, only, that malaria is by far the most frequent cause of them. Indeed, it has never been proved that a simple ague will *originate* without this cause, though it may be readily excited afterwards by many causes.

"But when we descend from the simple disease along the scale of varieties, or as the local affections of the nerves begin to predominate far above the general one, I am so far from thinking malaria essential to the production of intermittent, or, to speak specially of neuralgia, that I have made a particular division, where it is demonstrably produced, as far at least as we can demonstrate, by an exclusive cause, even by mechanical injuries." 32.

Dr. M. therefore, does not say or insist, that periodical headach is necessarily or exclusively the result of malaria—though this may be frequently suspected to be the case. Thus, in Spain, the *migrania* is endemic in all marshy situations throughout that country. But, even were it proved that the disease in question was produced by other causes than malaria, this would not affect the theory of its common or generic nature with intermittent.

"The action of malaria is on the nervous system, on the whole and on the parts: or, affecting the whole in a slender manner, it may exert its chief influence on some peculiar nerve or portion of a nerve. And till we know more of their nature and of this action, we cannot pronounce a negative, or say that no cause but malaria shall produce even a simple intermittent: while, if mechanical injury of a nerve can produce a partial one, there may be many other causes, unknown to us, capable of generating a periodical headach." 33.

Be this as it may, the malady in question, is most common in situations of the unhealthy kind already often described—and is frequently brought on directly by the causes which produce intermittents. A still stronger fact is, that it most commonly occurs in those who labour under chronic intermittents or remittents—or who have formerly suffered from those disorders. Still more remarkably, it is found to interchange by paroxysms, with the common intermittent—or the ordinary fever of one day is replaced, on another, by the headach.

"Thus have I seen the headach and the ague-fit occupying the alternate days, a modification which may be considered as a double tertian, and proceeding thus through a long period; while the same species of combination has also occurred to me under the tertian type. Where the chronic intermittent, however, has been of long duration, it is more common for the periodical headach which is united with it to recur in a very irregular manner, as is true generally of the disorder in all its modes, when of such standing: and it is in these cases especially, that its real nature is so commonly mistaken, as it then wants those obvious characters which alone would arrest the attention of a superficial observer." 34.

Dr. M. thinks that the pain in the neuralgia, and all anonymous intermittents, appertains to the hot fit—"and if an absolute general hot stage does not occur, there is that excitement of the vessels, and local heat, often approaching, or even amounting to temporary inflammation, which marks, at least a hot fit—a hot stage, as local as the previous cold one commonly is, just as if the whole intermittent paroxysm was limited to one spot, instead of occupying the whole nervous system." The characters are, in short, those of an ordinary intermittent, with the addition of pain—proving the correctness with which it is arranged as a neuralgic intermittent.

"In the best defined periodical headach, the pained part is generally small, when it may exist in any spot, including the face; and it is a general rule, though not without its exceptions, that in the chronic cases, whatever spot is once the disordered one, it continues so throughout the whole career of the disease; indicating a permanent morbid condition of some nerve, as in the decided neuralgia of the face. And thus, as these cases become severe in point of pain, do they approach so gradually to that neuralgia, that no boundary whatever can be drawn between them; a fact which ought long since to have explained what the neuralgia (Tic) really was." 40.

These localities (of periodical headach) are sometimes so small, that patients say they could cover it with the point of the finger—another character in which it agrees with the TIC. Thus, it is not uncommon, over one eye-brow—or on the top of the head, and so on. Dr. M. has met with no case of clavus hystericus which was not one of the disease in question, though he denies not, that the former may be, sometimes, an original and independent affection.

Hemierania, another modification of the disease now under investigation, sometimes occurs under a form so slight, that it attracts no notice—at least from the physician—a circumstance, however, that tends to explain some of the errors respecting this disease. Thus, a paroxysm of it, even of a regular and persistent form, may occur as a mere sense of fulness or heat in one side of the face, often attended with lachrymation, or a slight redness of the corresponding eye, or temporary redness of that nostril. This kind of attack is mistaken for cold, weakness of the eye, &c. and its true nature overlooked.

"I must yet, however, notice one point of resemblance between the common intermittent headach, and the neuralgia (Tic) of the face. In the former, as in this, there are often two pains, an acute and a general one, at the same time; while the acute pain also is subject to similar intermissions and exacerbations during the paroxysm. And when the disease is strongly marked, or the pain intense, the confusion of thought formerly noticed frequently amounts to absolute delirium, as the whole disease is commonly attended with those affections of the mind or temper, which were formerly enumerated under simple intermittent fever. Thus further does this disorder, as well as the neuralgia under whatever form, frequently excite the desire for suicide, while the very act itself has been committed; of which I shall hereafter be compelled to notice one peculiar case." 47.

The effects of the neuralgiæ on the mental faculties are analogous to those of intermittents. Hebetude, tendency to fatuity, and other phenomena of mental debility, are among the consequences of long-continued periodical headachs, and indeed most of the severe neuralgiæ.

Dr. M. takes an opportunity here of ridiculing the fashionable term of "determination of blood to the head."

"In the case to which I allude, it has been recently discovered, (for the disorder is of very recent invention) that the blood flows in some very improper manner to the head, even should the patient be a delicate and young female, a pallid and enfeebled, night-watching student, a nervous lady of fashion, exhausted by London vigils, or any one else of all those who were once esteemed to suffer from debility and nervous diseases; a tribe too numerous to mention in detail. Who was, or who were, the enlightened discoverers of this new philosophy, may be asked by those who can themselves answer it: a physician must hope, for the honour of his profession, that it was the discovery of the cuppers, and that it has been propagated by the self-empirics who are now fast becoming the rivals of his brethren, in the science, and of the apothecaries, in the art." 53.

These symptoms, formerly called nervous, and still looked upon by many as sympathetic, are very frequently, according to our author's experience, "the produce of the intermittent affections of the head," which have been described—or are actually cases (if sometimes obscure ones) of the periodical headach—"disorders of a neuralgic character." We fear that the real nature of these "determinations" to the head, is very often mistaken, and that lances, leeches, and scarificators, are not seldom put in requisition when they might safely be dispensed with.

II. NEURALGIÆ OF OTHER NERVES, IN VARIOUS PARTS OF THE BODY.

The minuteness with which our author has described the neuralgiæ of the facial nerves will render it unnecessary to be very minute with other descriptions. Dr. M. seems to have made a mistake in supposing that any doubt remains in the minds of medical men generally as to the extension of neuralgia to other nerves of the body besides the face. This being the case, we need not waste time in dwelling on the proofs of that which we, at once, admit. The proofs of identity, or at least of strong affinity, between the neuralgiæ generally and intermittent fevers, are, of course, drawn from the same sources as those had recourse to, when endeavouring to assimilate tic douloureux with ague.

"Very often we can trace it to the same causes; and while it is cured by the same general remedies as common intermittent, with the addition of such local ones as are found of use in the neuralgia of the face, it is exasperated or rendered permanent by that which is equally maltreatment in all those diseases; while also the very pointed evil consequences produced by the evacuant and debilitating practice, are the very same or exactly analogous to what they are in intermittent and in acknowledged neuralgia, whatever be the place of the pain. Further, these pains, or painful disorders, be the situations what they may, alternate with common intermittent, in the several ways already described as occurring in the local anomalies of that disorder, and in neuralgia and periodical headach; that is, as whole periods, or as mere paroxysms: while, of course, they are also irregularly intermixed with such affections, as happens with respect to the whole of the disorders treated of in this essay, whenever they are of long duration or have become an inveterate habit.

"Thus also, in a patient of this nature, it is not uncommon to find a very great number of all the disorders that have been here enumerated, co-existing or succeeding, and in every possible mode of combination and succession. The same patient, for example, who has suffered common intermittent, will be found to have also experienced more or less, or even the whole, of the anomalies enumerated under that disease, together with the neuralgia of the face, the periodical headach, and a certain number of the neuralgic diseases which I am about to record; all these several affections alternating in different ways among each other, and many being occasionally united; while, what renders the proof of the nature of these last complete, is, that whatever period is the habitual one of the commonest intermittent paroxysm, the same will mark the recurrence of every one of the affections in question. Such a patient, (and I have seen more than one such,) becomes in himself a perfect nosology of this disease, and carries in his own person a demonstration that ought to convince the most incredulous. Lastly, I have never seen a case of these remote and less common neuralgiæ, where it was not easy to trace that febrile state, which, however slender it may often be in all the local affections, is never absolutely wanting, and ought never to escape the eye of a real physician. The pulse undergoes the same changes, the fit of pain is the hot stage, and the cold stage may be found, at least by means of those delicate tests which I have already pointed out: nor have I ever been introduced to a patient reported as labouring under some unknown and extraordinary painful disorder, that I could not pronounce at once, from the mere physiognomy, (taking care to be present before or at the accession,) what the disease was; provided of course that it was really a neuralgia, as, in truth, has almost invariably proved the fact." 76.

Dr. M. proceeds to the statement of some insulated cases, which, though apparently anomalous in their character, yet bear on the subject under investigation.

Optic Nerve. A patient described the pain in this part, as though a red-hot needle had been passed through the centre of the eye. "As this disorder accompanied an attack of neuralgia in the upper jaw, or rather replaced it, appearing at the moment when that ceased, and as it was cured by arsenic, there was no reason to doubt of its nature."

Testicle. "Of this I have known, personally, but two cases; while I have reason to suspect that it has occurred frequently, and been mistaken for an incipient scirrhus. In one of the cases to which I allude, this error was in fact committed; and after a long period of suffering, the gland was extirpated in the usual manner. It was found to be sound, and, as generally happens when the division of the nerve has been resorted to in the neuralgia, it returned in the cord. This case was known to me, only after this last event; and as the patient was an opulent one, there had been no want of advice respecting the disease. It must be hoped that such mistakes will now become less frequent; while I must not even allude to the place where this one was committed.

"The other case, under my own care, was immediately cured by arsenic; while its nature was rendered perfectly evident by the slight paroxysms of intermittent which attended it, and by its having alternated with another neuralgia. As might be supposed, the pain in this case was extremely violent; and it was described by the patient as rendering him entirely blind, (as he expressed it,) to the surrounding objects; as if the whole world had disappeared from his sight, and all recollection was obliterated. Had such a pain continued even for a few minutes, it must have produced delirium." 78.

Hand and Fingers. Dr. M. has seen many cases of this nature, but describes only two, on account of the particular circumstances attending them. In one, a patient who had suffered from chronic intermittent and neuralgia in various forms, the affection was in a small branch of the radial nerve which runs along the metacarpal bone of the fore-finger. The usual symptoms were present; but the peculiarly superficial position of this nerve enabled Dr. M. to detect a change of structure in it which can seldom be observed, "and which is probably always present, though it has been little suspected." It is a pity, we think, that the precise nature of this change was not determined by the excision of the nerve—an operation proposed by the surgical attendant. The pain was limited to a space which a pea could have covered. In the course of four months, during which the neuralgia lasted, the nerve enlarged so as to form a knot or swelling of similar dimensions —"or, more accurately speaking, about a sixth of an inch in diameter." This part was so extremely sensible as not to bear touching even with a feather, without exquisite pain. This swelling continued after the neuralgia disappeared, but gradually lessened in size, though it has never (after a lapse of eight years) entirely subsided or lost its morbid sensibility. The paroxysms of pain were, in this case, periodical, and attended with redness of the surrounding parts. Blistering invariably increased the malady, and enlarged the circle of the pain and irritation. This is an effect which our author has generally found to follow blisters in neuralgia. Several other curious and obscure cases of neuralgic affections of the fingers are related by Dr. M. but we must pass them over.

Knee. In these cases of neuralgia of this joint, the disease was pronounced to be scrofulous, and to threaten white-swelling.

"In one of the cases, it had lasted five years; and as the pain was very severe, the surprise had long been that no swelling could be discovered by the touch. Had these remote neuralgiæ been then suspected to exist, or had the disorder at large been understood, as I trust it will now be, it could not have remained a subject of doubt for as many days, since the attack was quotidian and accurate; and it is one, yet but one out of thousands of cases, which shows how necessary it is that the knowledge of this disease should be universally spread among practitioners, since the quantity of human suffering that has already resulted from that ignorance is incalculable. I need scarcely say that, in this case, gout and rheumatism had been resorted to for the solution, when, after some duration, no swelling or disease of the bones could be discovered.

"But one further remark on it is worth making. The pain had always been severe; and from that, and its long duration, the constitution of the patient, a female in the better ranks of life, was reported by the attendant practitioner, to be 'broken down' by the suffering. A mere glance however was sufficient to show, not only that chronic intermittent was present, but that she was labouring under visceral disease, probably in the spleen; and thus it frequently happens in these cases, wherever they occur, that such a state is ignorantly attributed to a 'broken down constitution.' It is scarcely worth while perhaps to add, that the pain soon yielded to bark and arsenic given alternately; but many more months, added to change of air from the unhealthy and marshy situation where this patient resided, were required to quell the simpler intermittent which attended it.

"Of two other cases in this part, it is worth while to remark that the extremely acute pain was situated over the very edge of the head of the tibia, yet between the harder parts and the skin, as the patients determined it; while the affected place was not more than the eighth of an inch in dimensions. As scarcely any accuracy of dissection could produce a visible nerve in this precise spot, it follows that a perfect and intense neuralgic pain may exist in the most minute branches; a fact which has occurred, in my experience, in other parts; so that the want of a demonstrable nerve must not be used as an argument against the existence of the disease generally, any more than it must be permitted to blind the practitioner as to its possible presence in any individual case of difficulty.

"The last of these cases which I think it worth while to notice, was remarkable for its double tertian, or alternating form; a fact not very unfrequent under different modes, and which I have noticed elsewhere. I think, at least, that the term double tertian may be applied to it, from its resemblance to that mode of the simple intermittent in which the two fits are dissimilar, and from its analogy to those cases, not uncommon, in which a fit of neuralgia and a paroxysm of common intermittent occur on alternate days. And it belongs to that class of cases in this disorder, which aids in establishing the common generic nature of all these diseases; being one of the links which connects the most simple and regular intermittent at one extremity, with the most obscure neuralgia at the other.

"In this case there was, on one day, a pain in both the knees, and, on the alternating one, a pain in one arm; and thus had the disorder lasted a long time, to the great discomfiture of the physician by whom I was introduced to it, and who, as might perhaps be conjectured, had considered it as an irregular gout." 87.

Our readers will not fail to perceive that the above is what surgeons have lately called "HYSTERICAL WHITE SWELLING"—more especially Mr. Brodie, and the surgeons of St. George's Hospital. In a late clinical lecture on this subject, Mr. Brodie stated it as his opinion, "that nine out of ten of those unfortunate young women who have been *doctored* (á la Harrison of course) of late years, for '*spinal diseases*,' have really laboured under nothing but *hysterical pains* in the back." In the same journal (the Medical Gazette) there is a curious case detailed of "nervous affection" of the breast, of which the following sketch may be appropriately introduced here.

"The left breast, to the view, was no larger than the right; indeed, on the whole, rather smaller; the skin had the least blush of redness upon it. On examining the gland it was felt to be traversed by a distinct and circumscribed hardness, dividing the upper portion of the gland from the lower. The indurated part was exquisitely painful upon pressure, especially from the nipple outwards to the arm-pit. Pinching, or even lightly tapping on the skin, in the same situation and direction, gave pain, nearly as much, indeed, as firm compression. As the examination receded from the before mentioned line, the pain and the tenderness, *pari passu*, diminished. In the right breast were several indurated spots; much pain upon pressure; and great sensibility of skin. The pain was not aggravated but relieved at nights; sleep difficult indeed to obtain, but when obtained sound and unbroken. Besides the affection of the breast she had pain in the side, brought on and increased by exercise or motion. Her appearance was healthy; the appetite good; the tongue moist, but white; the bowels confined; the menses irregular.

"For the right understanding of the case it is necessary that we should mention the leading features of hysterical pain, at least in the external parts of the body. First, it is as much increased by slightly tapping, or at least pinching the integument, as by actual and considerable pressure. In the second place, the sensibility is not only exalted but actually exaggerated, caricaturing, as it were, the pain of organic disease. Thirdly, it differs from the pain of inflammation in this, that though it may prevent the patient's going to sleep, it seldom or never wakes her from it. This, according to Mr. Brodie, is a decided characteristic of nervous pain. In the present case these symptoms were observed, combined with induration and chronic inflammation in the gland of the breast."*

In respect to the name of the disease in question, whether seated in the knee, the mamma, or any other part of the body, we decidedly prefer the term NEURALGIA to that of HYSTERIA. The latter means nothing, in these cases—the former not only designates the nature of the complaint, but points to the etiology, and even to the treatment.

TIBIA. Many cases of neuralgia of this part have fallen under our author's notice. They were generally mistaken for periostitis, (and why may they not have been occasionally combined with inflammation?) and were treated by mercury and sarsaparilla, under the idea that they were of syphilitic origin.

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* Medical Gazette, No. 45.

This treatment often succeeded, because mercury and sarsa are usually beneficial in neuralgia, and these cures would, of course, confirm the practitioner in his erroneous view of the disease.

Rectum. Of this Dr. M. had an opportunity of seeing one well-marked case, and of observing its phenomena very minutely. He had to maintain his opinion against almost an army of medical men—no one, at that time, conceiving that neuralgia could be seated in any other part than the face. The case in question is a very curious one, and we are tempted to give it in the author's own words.

"At the first attack, and for some weeks, it consisted in an occasional sensation like a spasm, apparently situated in the urethra, about the prostate gland, recurring three or four times a day, and causing little uneasiness. Gradually, these sensations increased in frequency, and were attended with a general sense of irritation about the neck of the bladder, very much increased by walking, and at length producing spasms in various parts, with a tendency to an hysterical paroxysm. No apparent fever of any kind was at first present; nor any suspicion of its real nature entertained; while the disorder, not yet strictly periodical, was referred to the urethra and bladder. Very shortly, there supervened a debility, with occasional numbness, in one leg; and it was easy to trace, by the tingling sensation formerly described, the course of the fibular nerve. At the same time also, it was perceived that the mere act of bending the neck forwards, brought on the sensation in the perineum, and further, caused the patient to totter on the affected leg, a circumstance to which I shall have occasion to recur hereafter.

"After enduring some weeks in this form, there supervened a febrile state, at first very obscure, but which was, after some time, ascertained to be a double quotidian with a nocturnal and diurnal paroxysm. Still, the nature and the real seat of the pain was obscure; nor was the slightest suspicion of neuralgia entertained by the numerous medical attendants who in succession examined the case. Such however it appeared to me; and after some further progress, every doubt in my mind, if not in that of others, was removed by the increased regularity of the disease, and by the pain in question becoming as regular as the attacks of neuralgia are when most perfect. In this state, the first of the quotidian paroxysms was simple, and the second was attended by the neuralgia, which, now increasing in decision, increased also in severity. In this aggravated state also, it became plain that the primary seat of the pain was in the rectum, the patient describing it as a burning heat, as from a heated solid introduced, which was shortly communicated to the bladder, producing irritation and strangury. When of this severe nature, that irritation extended even round the thighs and over the lumbar region; so that the slightest touch produced great uneasiness, as happens in violent cases of the neuralgia of the face, and was felt even in the abdomen, as if the whole colon was affected in a similar manner; which was probably the fact.

"Further, during the severity of the attack, all the limbs were affected with spasms, and very generally there supervened a regular fit of hysteria, with a great degree of general derangement throughout the whole system, consisting of the usual symptoms of a severe remittent in all their worst forms. Lastly, and not to be unnecessarily minute, as the irritation of the bladder appeared to spread along the ureters to the kidneys, there came on diabetes, the diabetes mellitus; while, when this symptom was peculiarly severe, it was attended with an acute pain in the left, but not in the right kidney, so that possibly this particular symptom was confined to one of the glands only. And respecting this part of the disease, I must further add, that it was rigidly paroxysmal, or that the morbid secretion of sugar commenced with the general fit, and entirely disappeared in the interval." 95.

The patient had been subject to intermittent, and also to neuralgia, under various forms, for a long course of years—"and this was one of the relapses—a relapse which was often afterwards repeated." Although with the repetitions, the severity of the disease abated, yet, "on no one occasion did the period of the attack, and the continuance of the pain, vary, by even half an hour, from those first established." The cure of these relapses—or the mitigation of their severity, was effected by the remedies which succeed in neuralgia and chronic intermittent—and the disorder was brought back by every debilitating cause.

Thigh. Dr. M. has seen many cases where the neuralgia was seated in the thigh—especially in the anterior crural nerve, at the exact flexure of the thigh—and also in its ramifications as low as the middle of the limb—in the former case, shooting, as sciatica does, and with similar severity, down to the toe. Although the paroxysms were not regularly periodical, yet there was always a period of the day, in which the neuralgia was wanting—and this period was always the same.

Kidney. Dr. M. has met with but one case of pure neuralgia in the kidney, unattended with diabetes, or the increase of urine.

Sciatica. This species or form of neuralgia has perhaps attracted more attention than any other—probably on account of the great severity of suffering which it occasions. It gives our author a fresh opportunity of satirising physic and its professors, in respect to the vague manner in which the science, if such it may be called, has been prosecuted. Thus, Cullen and others have ranked sciatica with rheumatism.

"Why was it ranked with rheumatism? because it was a painful disorder: such are the reasoning processes of physic, yet it complains of difficulties. And what is rheumatism? a painful disease also; 'a peculiar affection,' says Cullen, '*of the muscular fibres,* with an inflammatory disposition in the system at large.' " 110.

Dr. Cullen having thus classed it with *muscular* affections, passes over it as unworthy of regard—"proving further that he looked upon it but as a variety." Nevertheless it was long ago discovered that sciatica was seated in the nerve, though this led to no results—and Cullen treats the opinion and its author with neglect * Living writers and practitioners consider sciatica as seated in the nerve. Its theory has been derived from the neuralgia of the face—and, in short, it is tic douloureux of the sciatic nerve. In looking over ancient and foreign authors, we find notices of sciatica attendant on intermittent fever, or succeeding it, and of the same disease having periodical returns with or without intermittent. There are even cases, (as related by Werlhoff, for example) where bark was administered, on those grounds; but still the disease was never placed in its proper position as a neuralgia, till recently. Even now, our author thinks, little has been gained, in consequence of the error committed by the attempt to connect it with *inflammation* of the nerve, or its covering—an error which "can only lead to wrong practice."

"It is on this view of its nature, that we can explain the peculiar intensity of the pain; a pain, both for quality and violence, bearing no resemblance to that of rheumatism. On this view also, we can explain its confined nature, the absence of inflammation, the state of diffused irritation about the parts which attends the fit of pain, the shocks which accompany it, resembling those of all the neuralgiæ, and its propagation along the course of the nerve. And if these peculiarities are thus explained, so are they the proofs of its real nature; while similar and further proofs are found in the paralytic affection which so often follow it, and which, as I have already shown, and shall more fully show hereafter, is a frequent consequence in all neuralgiæ, particularly under bad or wrong treatment. If spasms in the adjoining muscles, or throughout the body in general, occur in sciatica, so do they in all the neuralgiæ; and it is further remarkable that it produces, in irritable habits especially, hysterical symptoms, as do the other disorders of this nature, together with a general irritability, both of mind and body, which seems to belong peculiarly to the painful diseases of this nature." 117.

It will be objected, adds Dr. M. that sciatica is not so strictly periodical as this theory would demand. But what has been stated respecting other neuralgiæ will probably apply to this—the periodicity has often existed without being remarked or recorded. But there is no want of recorded instances of its periodical character. An acute medical friend of the author, "residing where this disorder is endemic, now constantly observes this character, which, till pointed out to him, he had overlooked, or, in fact, had never once perceived." He now seldom fails to discover, also, the intermittent fever, even regular, when he finds it to connect itself, as to the place of its endemic occurrence, with neuralgia of the face.

"When further he writes to me, that since he adopted arsenic at my suggestion, he seldom fails to cure it, and lastly, when we know that in the ancient cases, change of place or air is the best remedy, I can scarcely believe but that when these opinions shall become more universally spread, I shall see the same testimonies from many other quarters, and that this most painful disorder will no longer be that opprobrium to physic which it so long has been." 119.

In fact, if the absolute paroxysmal and intermittent character of sciatica is not frequent, it seldom happens that a distinct exacerbation is not to be found—though this is generally overlooked, in consequence of the very vulgar philosophy, of the patient's—"becoming worse when he is warm in bed"—in other words, when the nocturnal paroxysm obtains. In short, our author avers that he has never failed to recognise "the intermittent febrile paroxysm, under all the characters or variations which attend it in neuralgia in general." By this, Dr. M. does not mean to infer that sciatica is always the product of malaria, since he has already shown that the other neuralgiæ often arise from simple causes—even from local injuries.

"It is observed to be peculiar, in a general way, to certain situations, or to be a sort of endemic, in those, while little known in others; and thus for example, it is extremely common in Cumberland and Westmoreland, among the peasantry. It is a singular analogy to this, that, in a certain district in Wales, the neuralgia of the face should be the common form of the disease, while the sciatica is, comparatively, little known; but how much further such facts may extend, we have as yet no information; and for the plain reason, that we have had no observers and no philosophy. I do not pretend even to imagine a cause; but, if it is of any value, or rather if it may ultimately be of any value when our knowledge of these diseases shall become more extensive, there is something similar to this in the common intermittent, as I formerly observed; since there are certain situations which produce quotidian or tertian, or quartan, in preference, respectively, to the other forms. And if what I have attempted to prove in another place be true, namely, that the enlargement of the thyroid gland is caused especially by the malaria of alpine valleys, here is another fact and an analogy, seeming to prove that there are distinct modes of malaria productive of distinct disorders." 124.

NEURALGIA OF THE GLANDS. Passing over a chapter on "Questionable Neuralgiæ," which deserves perusal, but on which we dare not linger, we come to a chapter on neuralgic affection of glands. Considering the abundant supply of nerves to glands, we need not wonder that the functions of these organs should be disturbed by neuralgia. An abundant flow of tears and saliva has been observed in neuralgia of the face. In some cases of tic, or headach, there is a copious discharge of water from the nose. Dr. M. has known this amount to a pint in a very short time. A *catarrhal* intermittent has been admitted by many writers, as also an intermittent *diarrhœa.* A remarkable instance of diabetes has already been noticed by our author, as evidently dependent on a neuralgic affection of the kidneys, which continues to come on periodically even yet, after six years' duration.

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* Cotunnius on Ischias Nervosa.

"The attacks, during this whole period, were, on every occasion, as strictly periodical as they had ever been, though the relapses became gradually irregular in recurrence and duration both, as happens in all the very chronic cases of these disorders. Nor, in any instance, did the commencement of the saccharine secretion differ from what had been the former hour of the attack of the intermittent, or proceed beyond its ancient limits; occupying six hours of the day. In the interval of the paroxysms, the secretion was perfectly natural, as it was in the greater intervals of the relapses." 143.

These and other examples show, Dr. M. thinks, that neuralgic affections, extending to the nerves which supply the glands, can influence the secretions of those glands, merely in the way of *increase of action,* the case of diabetes forming an exception to the general rule. The facts, however, on which this theory rests, are rather too few, as yet.

"If the neuralgic action on the nerves, and subsequently on the vessels of the few glands that have been noticed, can produce the effects that we have here seen, and if, further, it can produce those very singular inflammations that will hereafter be pointed out, we have a pathological power, the extent and action of which, as exerted on different parts of the compound animal structure, we can imagine to be both various and considerable; a possible cause of diseases the nature of which is still obscure, and a solution of difficulties, which, if it still stops where all pathological investigations do, advances us yet a certain step in this difficult inquiry." 145.

NEURALGIA FROM INJURIES.

The eighth chapter of the work before us is dedicated to the above subject. But we have not space to dwell upon it, especially as the author confesses that he has few facts of his own to produce, and as we have, in many parts of this journal, given the results of modern experience on neuralgia from injuries. The first, as well as the most pointed, case occurring in our author's experience, we shall quote in this place.

"The patient was a young woman, and the injury was simply the prick of a needle in the end of the middle finger; its consequence being a regular periodical neuralgia in that finger; which also did not occur till a few days after the accident. As some weeks had elapsed before she applied for advice, it was easy to ascertain the fact of the periodical and quotidian regularity; while, at that time, the affection of the nerve extended all the way to the shoulder, exactly in the same manner as it does in sciatica and in other cases of spontaneous neuralgia. And as, further, some time elapsed before I could effect the cure, I had abundant opportunity of satisfying myself respecting the real nature of the disease. That it was cured by means of arsenic, will perhaps, to many physicians, be an additional proof that I had judged correctly respecting its nature. I shall only add, as to this case, what may be an useful hint to practitioners in such instances, that the patient herself had no suspicion of the regular or paroxysmal nature of the pain at the time of her application; and that as it was from my own previous views that I was led to make the inquiry, so it was not without much cross-examination that I was enabled to get the information which I afterwards confirmed by my own observation." 152.

In a second case, a bruise on the arm was followed by a regular neuralgia, of a quotidian character, seated in the middle of the radial nerve, and extending to the shoulder. The cure was effected by arsenic.

The third and last case was neuralgia of the toe, quotidian also, and the result of a blow or bruise. The injury was trifling; but the severity and duration of the pain were great, and continued for more than a month, not in the joint but in the very extremity of the toe. The patient was a medical man, and naturally enough, would not take any medicine for the complaint, though urged to do so by our author. The pain lasted nearly the whole of each day, and vanished every evening. The cure, at last, was spontaneous—an event by no means unusual in many neuralgiæ.

TOOTHACH.

The ninth chapter, on toothach, occupies 80 pages of letter-press. This may seem preposterous. But we entirely agree with Dr. M. in believing that the man who should discover a rapid remedy for a common *catarrh,* would be a greater benefactor to his race than he who should find out a specific for hydrophobia—the most terrible affliction to which humanity is subject. If there is any one disorder on earth—at least in civilized society—which is universal, it is the toothach. Yet, while its frequency has rendered all classes familiar with the evil, the theory and treatment of the disease have been taken almost entirely out of the hands of physic, to be lodged in the hands of those who can hardly be supposed to be the best philosophers. Dr. M. therefore, does not expect to produce conviction, whatever arguments or evidence he may offer in support of the doctrine, that "toothach, in all its modes, is a neuralgia, and nothing more—a variety of the general disorder under consideration."

"There is, in the first place, a term, a name as old as physic; and I need not again say that a successful and popular term is, in itself, philosophy; cause, theory, every thing; or that it stands at least in lieu of all reasoning and all investigation. It is the toothach; that is sufficient: after the philosophy is established, the remedies follow of course, and, in this case, it is extraction, the amputation of the imagined seat of the disease: the remedy of the Dracos in legislation for the extirpation of moral diseases.

"As an aid to this reasoning, the very ground-work perhaps of the whole, toothach is pain, pain in a tooth; and thus the entire definition, the whole philosophy and theory, are comprised in this sole feature and term. But when this pain is present, the tooth is frequently unsound, diseased, carious: and thus is the opinion that the pain proceeds from the visible disease, more firmly fixed, while this leading variety becomes the type and parent of the whole. Thus, if the tooth is not really carious, it will be so hereafter, or it ought to be so; or it is diseased in some other manner, (ingenious men find out that there is an abscess concealed,) or, as even Cullen has determined, 'it is always dependent on some immediate application of acrid matter to the nerves of the teeth,' or, in short, (for who shall find reasons for those who have none?) it is a diseased tooth in some way, because it gives pain, and therefore it must be extracted: while at this conclusion does Cullen himself arrive." 173.

And if after all, the disease is not in the tooth, but in the jaw, then it must be in the roots, or in the antrum maxillare—or somewhere else—but still it is TOOTHACH, and the tooth, or all the teeth, must be extracted! The following passage, among a thousand others, exhibits an exquisite specimen of our author's sarcastic style.

"It is not here my business to inquire into the utility, or rather the inutility, of a dentist and his operations: nor to encounter, unnecessarily, the prejudices respecting the wonderful value of his various arts, which are entwined with the most invincible feelings of our vain nature. Yet I may question whether he who is an ingenious workman in ivory, he who is a vendor of secret powders and washes, he whose strength of hand is not checked by any superfluous refinement of feeling, or he who knows no more of the human anatomy than that some teeth have one root and some three, is exactly the fit person to reason about the diseases of the human constitution, or to be intrusted with their cure; and, most of all, where, to blind habit and mechanical practice, there is occasionally added a small bias of self-interest." 175.

Dr. M. then enters on the investigation of toothach, forming a division of the disease into varieties, upon a plan of his own. The following extract could not, with benefit, be abridged.

"The heads under which toothach is divided, may, for the present purpose, be conveniently rather than correctly, assumed as the following: but they are very indefinite divisions as they run into each other, and as individual cases present endless modifications.

"It may be rigidly periodical: while, in this case, it may be either combined, or not, with chronic intermittent fever: and further, in this case also, a tooth, or teeth, may be sound, or carious, this condition being here considered incidental, not essential. Or, it may be irregular in its paroxysms, under all the same variations; and in both of these varieties, it passes into the common neuralgia of the face; or, cases occur, in which either name is equally applicable. This is the periodical toothach so familiar to those who have paid the attention to this subject which it deserves, but which is so very often overlooked, not merely by the physician, but very generally, if somewhat more remarkably, by the patient; as, by the former, its passage into highly marked neuralgia seems equally to have been neglected, and most so when a carious tooth is present.

"In these forms, it is here considered as spontaneous neuralgia; while, in the next place, it may occur, either casually, or more regularly, that is, under all the variations of that general disease, and traceable in a marked manner to a carious tooth; the pain being fixed in the nervous branch by which that is supplied, or originating in that and spreading from it. In that form it is here referred to neuralgia arising from an injury to a nerve.

"Further, as happens in cases of common neuralgia, the excitement of the minuter vessels may be such as to produce temporary and paroxysmal, or, more permanent inflammation in the membranes, or generally about the face; when it becomes rheumatic toothach or rheumatism of the face, (neuralgic inflammation.) The chief varieties here, are produced in the following manner. The general (rheumatic) inflammation may, as I have just suggested, be paroxysmal and periodical, and even regular, or it may be permanent; while it may attend a carious tooth which is pained, or free of pain, or else a sound tooth in a state of pain; and such pains under any mode of regularity or otherwise. It may also be accompanied by a neuralgic pain independent of the general pain of the inflammation, and not in a tooth; in which case, it is plain, it belongs most unquestionably to neuralgia, though, in the usual practice, ranked with toothach.

"Or, lastly, all other pain but that of the inflammation itself may be wanting, when it becomes, most strictly, what is called rheumatism of the face: this state also, sometimes occurring, even without the presence of a carious tooth. If this rheumatism of the face with separate neuralgic pain should in correctness have been ranked under common 'Tic,' the last division, also, in a more scientific arrangement, should have been reserved for a distinct section: but its obvious affinities and the received usage render it convenient to include it in the present one; particularly as its limits with respect to the former varieties are indefinite." 179.

The rigidly periodical toothach is by no means a rare form of the disease; but its periodicity must be SOUGHT, otherwise it will seldom force itself on the observation of the routine practitioner.

"Any person who chooses to seek for them, will find cases where the periodical return and the paroxysmal duration of toothach are as regular as those of the most regular neuralgia or intermittent fever, and under every variation under which these occur. And this is equally true whether there is a carious tooth or not; while, where that is not present, these cases, by occupying a particular spot or region, and by the quality of the pain, pass gradually into the common and regular neuralgia of the face (Tic) by gradations so insensible as to have no defined boundary." 181.

Dr. M. has laboured, and with considerable success, to show that neuralgia of the face appears under endless shapes, both as to place, and the nature or intensity of the pain —and, among other forms, in that of toothach.

"Or, to state this more particularly. If the inferior maxillary nerve can be affected with neuralgia in its trunk, that affection is, admittedly, not limited to any one point. Let us pursue that point as a mathematical fluent. It proceeds along the nerve till it arrives at the place where the ramification is given off to a tooth; it proceeds even into the tooth, and the *name* is then changed to toothach. But change of name is not change of disease: or if it be so, let the opposing assertion define the point in this fluxion, where the cessation takes place and a new element of equation must be adopted, or where a new disease commences. To determine thus, is to be guided by terms, not by facts or reasoning: this is the very empiricism of which I have so often had occasion to complain; unworthy of science, as it has been the eternal obstacle to the progress of physic." 189.

Dr. M. critises very sharply the various modes of treatment which have been employed for the cure of toothach, more especially excision and extraction of the tooth. "The abettors of this practice must be content to reflect that they hope to pull the disease out together with the tooth."

"Assuredly, no physician, no one capable of reasoning, would attempt, on principle, to remove the pain produced by, and in, a diseased branch of a nerve, by removing the teeth which are supplied from its minuter ramifications; since it would be as if he were to attempt the cure of sciatica by cutting off the toes." 211.

The establishment of a just theory will, Dr. M. thinks, put an end to the practice of tooth-drawing altogether, as far as it is practised for toothach. Extraction, he maintains, cannot prevent the return of the disease, "otherwise than as, in the case of a carious tooth, they may, like stuffing or filling the cavity, prevent the future operations of the exciting cause, which, in the case of exposed nerves, so often induces a fit of the disorder."

"As I defer the question of carious teeth for the present, the simplest case of this nature is that where there is a pain referred to a single sound tooth; in which, if it does sometimes happen that the pain is thus rigidly limited, it more commonly extends along the cheek or jaw, marking the neuralgic action; while, not unfrequently, the real seat of the pain is there, and the tooth suffers only by extension of it, as in the other cases of neuralgia formerly described.

"When extraction is resorted to for this kind of toothach, there is sometimes a cure, the cause of which I shall hereafter attempt to explain when speaking of carious teeth; and every cure, of course, unfortunately maintains the practice, while it is seldom inquired how often the operation fails. Very commonly, however, it happens, that immediately after extraction, the patient perceives that the pain continues, or is in the next tooth or teeth; in which case the operator is very often unjustly accused of having extracted the wrong one; when a resolute and confiding patient will sometimes submit to a second or a third loss, though even then the pain will continue. It may perhaps continue still in the neighbouring teeth; though more generally, where this pain has been limited as to the teeth themselves, it disappears from the places of those which have been extracted, continuing in the jaw, or in the leading branch of the nerve. The toothach is then sometimes reputed to have been cured; and the pain of the face is attributed to the operation, or to rheumatism, and is expected to subside; but as it would be endless to detail all these events, I shall not dwell on them." 215.

Dr. M. considers that the exposure of the sensible interior of a tooth, or of the nerve, as it is commonly called, which occurs in a perfectly carious tooth, may be an exciting cause of neuralgia in that nerve. Or the nerve may be diseased in that point; in which cases, extraction may cure the disease, effectually and permanently. Another way in which extraction appears, at times, to relieve toothach, is by exciting pain or temporary disorder—or by the shock which the operation and alarm give to the constitution. Such things occasionally effect a cure in other neuralgiæ, and in intermittents. On the other hand, where there is a tendency to neuralgia in the habit—or the disease is chronic, in the form of toothach, &c. the effect of the extraction may be a removal of the fit of pain, or a cure of the particular paroxysm, or series of paroxysms;—while the disease returns again whenever the unknown constitutional causes, or the fresh application of exciting ones, brings it into action. It is a strong argument in favour of our author's doctrine, that carious teeth do not always, or perhaps generally, produce toothach—even when we know that the nerve is exposed, by its sensibility, to stimulating substances. In short, we see thousands of teeth wasting away through years, with the nerves exposed all the time, and yet without toothach. The rational deduction from this is, that the disease does not essentially consist in such exposure or caries, but that something else is necessary—that the said exposure and caries are only occasional causes. But our limits are so near a close that we must abandon all hope of presenting a full analysis of this, the longest chapter in the work. We shall therefore conclude this article with the summary or chief arguments in the words of the author.

"Let me now however, in concluding, sum up the chief arguments as to toothach, in a condensed and somewhat more logical manner, since they will thus be more impressive than under the diffused illustration which I have been obliged to use in explaining the connexions of all the varieties of this disorder. That they involve a series of pure syllogisms, *ought* to render them convincing; that this will do so, is a very different assertion.

"Neuralgia is a pain occupying some point in the nerves of the face, among others; and it may occupy any point in any large branch which supplies the teeth, among other nerves of the face. The pain which it produces is the same pain, whatever be the nerve or part of that nerve affected. The pain of toothach is the same pain, and it is seated in an ultimate extremity of the branch which supplies the teeth, or in more. If that pain is not neuralgia, then it must follow, that although every point of that nerve, when pained, is suffering from neuralgia, let that pain exist any where, from the brain even to the extremity, the very last, ultimate, point thus suffering, suffers from a different disease. Reductio ad absurdum.

"Neuralgia is regularly intermittent and periodical, or it becomes irregular, under various modes, and from causes, of which many are assignable. The same is true of toothach. Neuralgia is often, or perhaps generally, attended by a peculiar constitutional affection, ascertained to be a chronic intermittent, and when highly marked, there is a febrile paroxysm accompanying the pain. All this is true of toothach. Neuralgia alternates with intermittent fever, by relapses; so does toothach: it alternates with it by paroxysms, and toothach does the same. And in both, the types may be quotidian, tertian, and double tertian, or perhaps more: while, in both, the disease may be similarly doubled; or, being a double tertian, may consist of a paroxysm of the pure intermittent on one day, and of the neuralgia, or of the toothach, on another.

"Neuralgia is attended by heat, and by excitement of the minute arteries, accompanied by general diffused pain, or irritability, or both; and so is toothach. Neuralgia and toothach are united, or simultaneous: or, the pain and place of the pain may be such, that neither the physician nor the patient can determine what the disease ought to be called. Neuralgia passes into or produces toothach; and, reversely, toothach passes into or produces neuralgia. The two pains alternate, in various modes; or that which was neuralgia at one period, be that of day, hour, or minute, or even instant, may be toothach in the next; or the reverse.

"Neuralgia is produced by the injury of a nerve. So is toothach: and this is the case of a carious tooth. And if toothach from this cause is especially frequent, it is that the caries of a tooth is very common; and that there are not, in external circumstances, or in the body, any frequent means of thus injuring, either through accident or disease, the branch of a nerve elsewhere.

"Toothach, when regular, is cured by the same remedies as regular neuralgia. In many instances it is thus cured even when irregular: and if such cure is not more frequent, it is because physicians have not thus attempted it: not having taken that view of this disease which I have here endeavoured to establish." 244.

We have now got through the first half of the last volume of Dr. M.'s work, and shall be able to conclude the whole, in one more article. It may seem remarkable, that not one of our contemporaries has attempted an *analysis* of the work before us. We ourselves are at no loss for a solution of this enigma. In the course of our lives we have hardly ever encountered a more difficult task than an *analytical* review of Dr. Macculloch's volumes. The reason will be obvious to those, and those only, who peruse the work. We do not regret our labours. The views which the ingenious author has opened out, will shed lustre on his own name, and on the profession to which he belongs, (however severely he may have satirized its professors) long after the spirit has deserted its tenement of clay, and the tenement itself has ceased to retain any mark of its original form or identity.

Medical and Philosophical Intelligence.

On the difference of Effects produced by the Drinking of Animal Jellies and Vegetable Mucilages in Spasmodic Asthma, and other Pulmonic and Bronchial Affections. By Mr. Kerr.—During several years of my life, I had frequent opportunities of observing patients labouring under spasmodic asthma, and one circumstance that particularly astonished me was, that when the violence of the paroxysm was increased by the use of *vegetable mucilages*, such as linseed tea, decoction of althæa, and other similar preparations, relief was invariably afforded by draughts of *animal jelly*, rendered liquid by warm water. The jellies generally employed were the calf's-foot and leg of beef. Of the general application of this observation, I am perfectly satisfied, so much so, that I invariably recommend patients suffering under spasmodic asthma, to drink of diluted animal jellies. The theory to be offered in explanation, I decline giving, not from any desire of self-possession, but simply on the conviction of the duty of being submissive to the useful dicta of the Baconian system of induction. I am always afraid of theorising too soon.*—*Lond. Med. and Surg. Jour.*

Case of Hypertrophy of the Brain, related to the London Phrenological Society. By Dr. Elliotson.—The case was that of a boy, twelve years of age, who had a head so large that any man, said Dr. Elliotson, might have been proud of it. Indeed, it was so considerable, that the neck with difficulty bore its burden. The boy used generally to recline on a sofa, and thus rest his head. But, though so large, the child had no indications of disease in his head; there was no symptom of hydrocephalus. He used always to seek the company of persons older than himself, and nothing pleased him more than to converse on the best forms of human governments. Political economy was his delight. He was attended medically by Dr. Elliotson for diseases of other parts of the system, being scrofulous. He complained a short time before his death, which was sudden, of a slight pain in his head; hemiplegia afterwards came on; apoplexy, indicated by all the characteristic symptoms, followed, and he died. On opening the body after death, the cerebral structure was healthy in appearance, and consistence; the vessels were very turgid, and the brain was of an immense size.

His reflective faculties were larger than the perceptive; the organ of secretiveness was large, and, as an illustration of its activity, his mother, who testified to his affection, added, that he always *kept something* back.—*Ibid.*

Remarkable Superiority of Amputating by one Incision through the Integuments and Muscles.—This great improvement in the mode of amputating, which was formerly recommended by Louis, and unaccountably abandoned, is practised and highly recommended by all the present surgeons of the Hôtel Dieu, M. Dupuytren, M. Breschet, and M. Sanson. In thighs removed by the two former, and an arm by the latter, no tourniquet was employed in either case. The limb was grasped by an assistant, and pressure made on the principal artery. A single incision cut through skin and muscles down to the bone, and a retraction of the skin and muscles not inserted in the bone was effected to the extent of three inches. The first retraction having been completed, the muscles attached to the bone were cut through by a scalpel, on a level with the others, and the bone sawed as usual. The stumps in all were remarkably fine, and the extremity of the bone was more than sufficiently covered.

After each operation, the surgeons respectively explained their reasons for preferring this procedure, whose expediency was proved by the result of every case in which it has been tried of late. To say nothing of the discarding of the tourniquet, which enables the operator to effect a retraction of the muscles to a greater extent than under its use; the old method of preserving the skin by cutting it up from the muscles to which it naturally adheres, was a considerable impediment to union by the first intention.—*Lond. Med. and Phys. Journal:*

Watery Extract of Aloes.—Mr. Battley has made some simple experiments on the aloes vulgaris, or Barbadoes aloes, by which it appears that the cold watery solution, evaporated to the consistence of an extract, contains all the valuable part of the medicine, divested of its acrid or drastic principles. The following is the process employed.

"I.—Two pounds avoirdupois, or 2 lbs. 4 oz. 2 drs. 48 grs. apothecaries' weight, of the extract of aloes, in the state in which it is imported from Barbadoes, imparted to cold distilled water 1 lb. 9 oz. 1 dr. 42 grs. The solution was of a fine yellow-brown colour; its taste intensely bitter, yet free from the flavor peculiar to this species of aloe.

"II.—The residuum of I. imparted to hot distilled water 2 oz. 15 grs., leaving 4 oz. 2 drs. 15 grs. of undissolved matter. The solution was darker than I., inclining to purple, less intensely bitter, but having the peculiar flavor of the aloe vulgaris.

"III.—The residuum of II. imparted to alcohol 3 oz. 4 drs. 48 grs., leaving 5 drs. 27 grs. insoluble in this menstruum. The tincture was of a deep brown colour, bitter, and very offensive both to the taste and smell.

"IV.—The residuum of III. imparted to one part of liquor potassæ, diluted with seven parts of water, 4 drs. 48 grs., leaving V.—79 grs. of a dark earthy appearance, deprived of all aloetic properties, and void of any qualities that the taste or smell could detect. Even the alkaline solution IV. of a deep heavy brown colour, was so slightly aloetic as to be nearly insipid and inodorous.

"In I., or the cold solution of the aloe, again reduced to an extract, the profession will find at its disposal a valuable medicine; but the results II., III., will probably be found to be too drastic, and IV., V., absolutely inert."—*Journal of Morbid Anatomy.*

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* These circumstances we beg to recommend to the notice of our medical brethren, and perhaps some one will favour us with his views on the subject. We may add too, that the utility of animal jellies extends, according to Mr. Kerr's observations, to other pulmonic and bronchial affections.—*Editors.*

Neuralgia.—Dr. Wilson, the talented author of a work on West India Fevers,* reviewed in a former number of this Journal, has transmitted to us some observations on the dreadful case of Neuralgia lately published for consultation, in No. XVIII. of this Journal, page 435.† We shall take the liberty of quoting a passage from Dr. Wilson's letter, as it contains some practical facts of interest and utility.

"In three cases of neuralgic disease lately under my care, a cure was effected by the combination of calomel, opium, and oil of turpentine. In my Memoirs of West India Fever, I there stated my belief that the oil of turpentine not only accelerated the action of mercury, but, also, in certain cases, increased its curative effects. In the neuralgic cases to which I allude, I gave the turpentine chiefly with the view of speedily inducing the specific action of the mercury. I am now, however, inclined to believe that the turpentine operated beneficially in itself. The following is the mode of administration which I have employed in the three neuralgic cases above mentioned.

"A pill, containing from two to four grains of calomel, and one or two grains of opium, was given each night at bedtime, and, next morning, one or two drachms of oil of turpentine, mixed with a little honey. In each of the three cases, a complete and permanent cure has been effected by this plan, and in a moderate space of time."—*Med. Chirur. Rev.*

Cartilaginous Degeneration of the Stomach.—A middle-aged female, who, for twelve years, had had a moveable, round, firm tumour in the abdomen, which, by several physicians, had been declared to be a degenerated ovary, applied to Dr. Dieffenbach of Berlin; who, after a careful examination, was of the same opinion; and as the patient had never experienced any pain in the stomach, nausea, vomiting, or any of the symptoms by which a scirrhus of the stomach is generally accompanied, was very far from suspecting disease of this organ. The patient, however, soon died; and, at the post-mortem examination, it was found that the tumour was formed by the stomach, which was in a state of cartilaginous degeneration; its anterior paries was an inch thick; and, except a small portion of the posterior paries, the whole stomach was changed into a firm, incompressible sac. Digestion, which, during the patient's life, had been but very slightly disturbed, must, in this case, necessarily have been carried on independent of the mechanical action of the stomach.—*Rust's Magazin.*

Destruction of the Right Hemisphere of the Brain—Hemiplegia of the left side—intellect unimpaired.—A hemiplegic man, 32 years of age, died after the usual symptoms of phthisis pulmonalis, which, as well as disease of the heart, was ascertained by post-mortem examination. The cause of the paralysis, however, was still to be sought. On opening the skull, it was perceived that a considerable mass of fluid was poured out between the brain and cranium. The hemisphere of the right side was wasted and reduced to a mere membrane; the cerebral substance had disappeared; the optic and olfactory nerves of the right side were shrunk, as were the corpora olivaria and tubercula quadrigemina of the same side. In the words of the narrator, "it was not a brain that I found, but only the half of one." Yet the intellects of the patient were unimpaired. —*La Lancette Française.*

Emphysema of the Thorax, Simulating Fracture of the Ribs.—A man, 56 years of age, came to the Hospital de la Pitié last Sept. complaining of very acute pain of the right side of the chest at its posterior part, and about the situation of the fifth rib. The pain was increased by pressure, by coughing, and by lying on the affected side; there was slight tumefaction, and a crepitation was perceptible analogous to that resulting from fracture, but more superficial, more clear, and more diffused; this noise was like that of starch broken between the fingers. Besides, when the pressure was continued, the crepitus became more rare, or disappeared, and then it might be felt at a distant point. The respiration, although frequent, was distinctly heard—there was little of the mucous râle. What was the disease? The patient had not constant pain in the part—it was not fracture, for he had met with no injury. The pain came on during forcible lateral flexion of the trunk, when he stooped to pick up any thing. It could only be a spontaneous emphysema, which was circumscribed like that observed by Desault, Murat, and some others, under the pectoralis major, in the efforts at reduction of the humerus. The patient left the hospital in a few days cured.—*Ibid.*

Inflammation of the Veins of the Uterus after Parturition.—M. Dance, in a memoir just published on Uterine Phlebitis, has related from his own observation, and from the works of Andral and Louis, eleven cases of fatal inflammation of the veins of the uterus, with the appearances which were witnessed on dissection. This most dangerous form of uterine inflammation was observed to commence most frequently a few days after delivery, with rigours, general uneasiness, suppression of the lochia, and pain and sense of weight in the hypogastrium. The size and sensibility of the uterus gradually increased, the expression of the countenance became greatly altered, and prostration of strength, with delirium, and other symptoms of typhoid fever, rapidly succeeded, and destroyed the patients. This disease was observed in several cases to be complicated with extensive disorganization in remote organs of the body. In three cases severe pulmonary symptoms occurred, and on dissection purulent deposits were found in the substance of the lungs, with pleuritis and effusion into the sac of the pleura.

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* Vide Journal of Foreign Medicine, Vol. I., page 342.

† Ibid., Vol. III., page 58.

In another case an inflammatory swelling suddenly formed around one of the joints. The veins of the uterus were in most of these cases found inflamed, and in a state of suppuration, and the substance of the uterus had become preternaturally soft, and of a dark colour. In two, the peritoneal surface of the uterus was covered with lymph.—*Archives Générales de Medicine.*

Vapour of Iodine for the Cure of Consumption.—A letter from Dr. Berton was lately read before the Royal Society of Medicine, respecting the employment of the above named medicinal agent in cases of tubercular consumption. This mode of using iodine appears to the author to have a double advantage—first, in not producing gastric irritation; and being also immediately applied to the diseased part, he produces the vapour by the application of sulphuric acid to the hydriodate of potash. Air loaded with this vapour does not excite the least irritation in the throat. M. Berton cites three cases in which this method was productive of good effects: in two of them the cough and expectoration were diminished, and the appetite improved; in the third, although the plan had not been long adopted, the relief was evident. M. Berton thinks that a greater number of facts are still required to enable us to pronounce an opinion as to the real value of this medicine.—*Journ. Hebdomadaire.*

Absence of the Lower Portion of the Dura Mater.—A female infant was born prematurely in a state of great weakness; it was with difficulty she was made to take the breast; one eye was smaller than the other. A few minutes after birth she was seized with convulsions, which increased in frequency and violence, so that she experienced 100 in 24 hours; in other respects she was like other infants. As she grew up, neither the sensibility nor the loco-motive powers were developed properly; she could neither hear nor see; but her taste was perfect. She lived to complete her 17th year, but had never been able to lift her hand to her head; was completely dumb, excepting that when hungry she would utter a very feeble cry. It appears that some signs of menstruation and puberty had made their appearance.

On opening the body there was observed in the head a distention of the vessels of the brain, and a small quantity of serum in the lateral ventricles; the dura mater, which lines the base of the cranium, and accompanies the nerves to their exit, was entirely wanting, but the nerves, &c. were perfectly sound; a semi-transparent thin membrane, very loose and irregularly disposed, appeared to be a substitute for the dura mater, but without fulfilling its functions; behind, the tentorium was almost entirely wanting, so that the cerebellum was obliged to support the whole weight of the brain.—*Journal Hebdomadaire.*

Caries of the second Vertebra of the Neck. By Dr. Guiton.—A man aged 24 years, had been troubled for a considerable time with pain along the spinal column, which had also become crooked. These symptoms were attributed to masturbation. When admitted into the hospital St. André, at Bordeaux, a tumour of considerable size was observed in the back of the neck, presenting all the symptoms of a phlegmon. Leeches were applied with momentary relief, but at the moment when the patient was thought to be improving, he died suddenly. On dissection the whole body of the second vertebra of the neck was found destroyed by caries. The processus dentatus was suspended by the ligaments which united it to the occipital bone; it was still however, confined in the ring formed by the anterior part of the first vertebra and the transverse ligament. The left transverse process of the second vertebra was also destroyed by the caries. The spinal marrow presented no remarkable alteration of structure.—*Journal Universel, &c.*

Metastasis of Cancer.—We sometimes hear of very extraordinary occurrences. When these are brought forward as facts by those who have seen them, or who pretend to have seen them, we hardly know whether to give up our assent to the statements, or reject them altogether, if not as impossibilities, at any rate as very great improbabilities. The following case is one of this nature:—A lady, whose mother had died of cancer of the breast, and whose father, of an operation for sarcocele, presented for a long time general symptoms of scrofula, was affected with engorgement of the right breast, which exhibited all the symptoms of cancer. M. Dupuytren being consulted, with M. Parent du Châtelet, who attended the patient, pronounced the disease to be a cancer, and he considered it so far advanced that he was unwilling to attempt an operation. Some time afterwards the patient felt lancinating pains, like those of the breast, in the right side of the head, and M. Parent du Châtelet was not a little surprised to find the tumour of the breast disappear in proportion to the progress of the pain in the head. Hemiplegia supervened; the cephalalgia became excruciating, and the patient died in the greatest agony. On examination after death, the breast originally affected was found to have returned to a state perfectly natural: but in the lateral part of the right side of the brain was discovered a cancerous tumour, of the size of a common walnut.—*Jour. Hebdom. from the Lond. Med. and Surg. Journal.*

Facial Neuralgia cured by the Wine of Colchicum. By Dr. Campagnano.—Dr. ———, surgeon-major of the royal marine, aged 63 years, was attacked in June, 1826, with most violent pain in the right cheek, which, from its lancinating and fugacious character, was considered as neuralgic by all the physicians consulted on the occasion. V. S. leeches, purgatives frequently repeated, pediluvia, resolvents, anodynes of every description, blisters, lotions with the water of the cherry laurel, and a great variety of other means were employed successively, and without the slightest relief. Recourse was then had to acupuncturation, and even to the division of the sub-orbitary nerve, but without greater success. M. Campagnano, being informed, that the patient had several years previously been troubled with pains in the articulations of the fingers, conjectured that this affection of the nerve, might be dependent upon an arthritic cause. In this view of the case, he directed the vinum colchici, which he had frequently employed in the treatment of gout with much advantage. The event justified his opinion, for the patient had scarcely taken the second dose of thirty drops, when his bowels were actively operated upon, not more so however than by the purgatives which he had formerly taken. From that moment the pain, which immediately before had been so violent and obstinate, ceased altogether.—*Osservatore Medico di Napoli.*

Effects of Abstinence on the Stomach.—The *Medicinisch-Chirurg. Zeitung* contains the result of some interesting experiments relative to the action of the gastric juice on the parietes of the stomach after death, and to the effects of abstinence on animals of different kinds. The gastric and intestinal juices never soften or dissolve the membranes of the stomach or intestines; their action is rather diminished than augmented during abstinence; and the proximate cause of death by hunger is not inflammation of the stomach, as has been lately maintained, but general exhaustion. Carnivorous animals bear abstinence much longer than herbivorous ones, and dogs die much earlier than cats; if, during abstinence, carnivorous animals are supplied with water, they live considerably longer than those who are deprived of it; in herbivorous animals this is not the case, and they hardly ever touch the liquid even in extreme hunger; rabbits often die from exhaustion, although there are afterwards some remains of food found in the stomach, and if, driven by hunger, they devour animal food, they generally die very soon afterwards, although they have the power of digesting it, as appears from the contents of the stomach. In those animals who die from hunger, the veins of the abdominal viscera are generally found gorged with blood.

Treatment of Phthisis by Smoking Belladonna.—Professor Cruveilhier has lately used the belladonna in phthisis with great success, in the following manner: the fresh leaves were infused in a strong solution of opium, and then dried up like tobacco; the patients began by smoking two pipes a day, and the quantity was gradually increased to six pipes. In several cases of confirmed phthisis the cough became less frequent and violent, the pain and irritation of the larynx subsided, the dyspnœa disappeared, the expectoration diminished, and became less troublesome, the profuse nocturnal sweats, the heat and febrile excitement, became less, and the disease seemed to be completely arrested.—*Nouv. Bibl. Medic.*

Mode of Exhibition for Copaiba.—Any formula by which the peculiar unpleasantness belonging to a medicine can be removed, is truly deserving attention. With the following I was favoured by one of the gentlemen attending the Western Hospital. It is for the exhibition of that unpleasant medicine copaiba.

℞: Bals. Copaibæ f ʒij. Pulv. Acaciæ ʒij. Sacchari ʒiij. Liq. Potassæ f ʒiss. Spir. Myristicæ f ʒj. Aquæ f ℥vi, ft. Mist. Capiat cochlearia ij ter die.

I recommend this formulæ to the attention of practitioners, as being very eligible for the administration of this otherwise most nauseous medicine. The efficacy of the copaiba seems to be much increased by the combination.

One circumstance is to be attended to in its administration, namely, that, as it is apt to leave a caustic taste in the mouth, the patient should wash his mouth and fauces with some mild diluent.—*Lond. Med. and Surg. Journ.*

The last number of the London Medical and Surgical Journal contains the following communication from a correspondent, who styles himself "Chemicus."

Remedy for Gonorrhœa.—The following formula having been found in my own practice, as well as in that of some of my friends, very useful in checking gonorrhœa and its modification, gleet, after every other means, even *cubebs*, had failed, I do myself the pleasure of forwarding it, in the hope that it may be serviceable. The grand agent in the formula is the Tinc. Muriatis Ferri, which, for this purpose, as well as for every other, should be prepared from the *ferrum præcipitatum.*

℞. Tinct. Ferri. Muriatis ʒj. Sp. Ætheris. Nitrici ʒvij. Capt. Guttas XL ad LX bis vel ter in die in Aqua distillata.

Those who wish to use copaiba may gain the same beneficial consequences from the substitution of the same, in the place of the Sp. Ætheris. Nitrici, in the same proportion, and to be taken in the same way.

On Asphyxia from Submersion. By M. Orfila.—The latest experiments of M. Orfila on this subject, seem to prove that after death the liquid penetrates into the smallest ramifications of the bronchia. In a body, which thirty-six hours after death had for six hours and a half been placed in a bathing-tub, filled with water, with which eight pounds of powdered animal charcoal had been mixed, the coloured fluid was found in the extreme bronchial ramifications, and on making an incision into any part of the lungs was observed, on the least pressure, to ooze out from their tissue. The stomach did not contain the least particle of the fluid. In two bodies, which two days after death were placed in the mixture for about forty minutes, it had entered the trachea as far as its division, and no trace of it could be found in the stomach. Two important conclusions appear to result from these experiments:

1. The presence of water in the bronchia and tissue of the lungs, is no sufficient proof of the body's having, during life, been immersed in water, as is asserted by several writers on forensic medicine.

2. The fluid does not penetrate after death into the stomach, and its presence in this organ affords considerable ground of suspicion of the body's having been during life immersed under water, provided there be no reason to believe that it was swallowed before, or injected after the immersion.—*Journal de Chim. Médic.*

Prolapsus and Rupture of the Uterus during Delivery. By Dr. Henschel, of Breslau.—A female, ætat. 30, of a very weak constitution, who had, since her last confinement, been affected with incomplete prolapsus uteri, became again pregnant; during the latter period of gestation, the uterus gradually reascended into the pelvis, and at last regained its natural position. The incipient stage of labour seemed perfectly natural; the contractions of the uterus were very powerful; the os uteri had dilated to about half an inch, and the head had entered into the small pelvis, when, on a sudden, during a pain, the lower portion of the uterus prolapsed. On examination, Dr. Henschel found a large fleshy mass protruding from the vagina; it was of cylindric form, six inches in length, and two and a half in diameter, very tense, and of a bluish red colour; the upper portion appeared somewhat thinner than the lower, in which the os uteri, the edges of which were much tumefied, was easily distinguished. The patient was very much exhausted, and complained of excruciating pain in the prolapsed mass. The head of the child having descended through the lower aperture of the pelvis, lay between the labia pudendi, and was forcibly pressed by the contractions of the uterus towards the cylinder, the upper portion of which being violently distended on each uterine contraction, threatened immediate rupture. The os uteri having meanwhile dilated to more than an inch, Dr. Henschel resolved upon terminating labour by the immediate application of the forceps; which having been readily introduced, the head was without much difficulty brought towards the aperture, when the upper portion of the cylinder all at once began to burst; the forceps were accordingly withdrawn, and the head made to descend as slowly as possible, to prevent further laceration, but without success; for when the head descended through the os uteri, the external surface of the cylinder, a little below the symphysis, presented a transverse rupture of about two inches in length, and of considerable depth, without, however, as it appeared, penetrating through the paries of the uterus. The child was born alive, but died within a few hours. After the removal of the placenta, the prolapsed portion of the uterus powerfully contracted; it became considerably shortened, but increased in thickness, so that when Dr. Henschel attempted to return it into the pelvis, its size occasioned great difficulty. This was, however, at last accomplished. On examining the internal surface of the vagina and lower portion of the uterus *in situ*, no trace of any wound could be discovered. During and after the laceration, the hemorrhage was slight, but the sufferings and exhaustion of the patient were very great. Emollient injections were thrown into the uterus, and small doses of opium given internally. The ensuing night was very restless; the patient lost much blood, and complained of violent pain over the whole abdomen, which was tense and very tender on pressure; the upper portion of the uterus had completely contracted, but the lower was still very tumid and painful. The opium and emollient injections were continued, and a poultice laid over the abdomen. On the second night, the tension and pain of the belly considerably increased; the patient was very feverish, and in a desponding state. After the application of an emollient glyster, and some leeches to the hypogastric region, the inflammatory symptoms gradually subsided; the breasts filled with milk, and the lower portion of the uterus began to contract; so that on the seventh day it had nearly regained its natural size. The lochial flux was very profuse, and contained much purulent matter. Four weeks after delivery, the patient was perfectly cured. On examination of the vagina and uterus, no trace of any previous laceration could be discovered; the uterus was of the natural size, and in the lower portion only, there was a slight degree of tenderness.—*Siebold. Journ. für Geburtsh.*

Case in which a Needle was introduced into the Larynx.—A man had been using a needle for the purpose of scratching his nostril: having let it go, it passed backwards into the fauces, and fell into the windpipe. The needle had a thread attached to it, which was entirely drawn in, and disappeared. Violent fits of coughing and attempts at expectoration immediately came on: by these the end of the thread was ejected, and the patient laid hold of this and pulled it. These attempts gave him great pain, but were unavailing. He continued for three days in a state of great anxiety and suffering, during which he made numerous ineffectual attempts to pull out the needle. At length he came to the Beaujon, at Paris.

The thread was still hanging out of the mouth, and some efforts were again made by the house surgeon to extract the needle by pulling it gently, but in vain. M. Blandin, when he arrived, found that the thread had disappeared during the act of deglutition, nor could he recover it by introducing the fingers into the pharynx, nor by any other means. Uncertain whether the needle had really got into the larynx or the gullet, he contented himself with applying thirty leeches to the throat, followed by a poultice, &c. Next day the patient was much in the same state, and was bled to sixteen ounces, and had twenty leeches to the neck, &c.

For two days more there was little to remark; when, during the visit, the patient expelled the end of the thread in a fit of coughing. M. Blandin, having satisfied himself that the needle could not be pulled out, fixed the thread upon the cheek with a little adhesive strap, and resolved to operate next day.

On the following morning the respiration was more difficult, and the voice more hoarse. M. Blandin, having again tried various means of extracting the needle, proceeded to operate. The patient was placed horizontally on a bed facing the light, and M. Blandin, standing on the right side of the patient, fixed the larynx with the left hand, and then endeavoured to find the crico-thyroidean space, but the swelling rendered this impossible; he therefore made an incision through the skin on the median line, about a third of the length of the throat, and afterwards divided the subjacent parts very cautiously: it was not till he had penetrated to the depth of an inch that he laid bare the crico-thyroid membrane. Some bleeding took place, but the hemorrhage soon ceased. The nail of the forefinger of the left hand was placed transversely on the membrane, which was then punctured, and cut in the same direction. A grooved and curved director was introduced by the wound, and carried upwards, and the thyroid cartilage divided upon it throughout its whole length. Respiration was now freely performed through this large opening, but the voice was lost. A polypus forceps was introduced at two different times and speedily withdrawn, on account of the irritation it excited, but without the needle. Considering it possible that the needle might be expelled in a fit of coughing, the patient was put to bed, the wound being lightly covered with a piece of linen pierced with holes, and spread with cerate.

On the following day a needle, nineteen lines in length, blackened, and as it were bronzed, was found attached to the compress laid over the wound.

The wound healed very slowly. The operation was performed on the 22d of June, and a fistulous opening, with great weakness and hoarseness of voice, remained in September. On the 30th of that month, it is stated that, by means of caustic applied to the edges of the aperture, it had at length closed, and the voice regained some of its former strength.—*Journal Hebdomadaire.*

On Blistering Infants.—The melancholy consequences which frequently arise from the application of blisters to young children, renders every suggestion which is probable may prevent them of great importance. We find that an hour or an hour and a half is a sufficient time for a blister to remain upon a child, and although at the expiration of that time no vesication is apparent, yet, if the part be covered with any mild dressing or a poultice, a sufficient degree of irritation will be observed in a few hours' time, in fact quite sufficient for the peculiarly delicate and susceptible constitution of children. When the emplast. cantharides has been employed in this manner, we have never witnessed any alarming result.—*Lond. Med. and Surg. Jour.*

New Publications.

A Synopsis of Modern Medical Jurisprudence. By J. S. Forsyth, Surgeon, &c.

Napoleon à St. Hélène. Opinion d'un Medecin sur la Maladie de l'Empereur Napoleon, et sur la Cause de sa Mort. Par J. Hereau.—Paris, 1829. 8vo. pp. 228.

On Aneurism, and its Cure by a New Operation. By James Wardrop, Surgeon to his Majesty Royal. 8vo. pp. 177, and seven plates, with explanation.

Illustrations of the Diseases of the Breast. By Sir Astley Cooper, Bart. F. R. S. &c. &c.

Literary Intelligence.

In the press, Elements of Medical Statistics; containing the Substance of the Gulstonian Lectures delivered at the Royal College of Physicians: with numerous Additions, illustrative of the comparative Salubrity, Longevity, Mortality, and Prevalence of Diseases in the principal Countries and Cities of the Civilized Globe. By F. Bisset Hawkins, M.D. of Exeter College, Oxford, Fellow of the Royal College of Physicians.

In the press, and will be published immediately, a Treatise on the Varieties of Deafness and Diseases of the Ear, with Methods of relieving them. By William Wright, Esq. Surgeon-Aurist to her late Majesty, Queen Charlotte, and to his Grace the Duke of Wellington, to the latter of whom this work will be dedicated.

Preparing for publication, The Study of Medicine, Third Edition. By John Mason Good, M.D. F.R.S. F.L S., containing all the Author's final Corrections and Improvements; together with much additional modern Information on Physiology, Practice, Pathology, and the Nature of Diseases in general. By Samuel Cooper, Surgeon to the King's-Bench and Fleet Prisons; Surgeon to the Forces; Author of the Dictionary of Practical Surgery, &c.

THE
MONTHLY
JOURNAL OF FOREIGN MEDICINE.

JUNE, 1829.

From the London Medical Gazette.

PATHOLOGICAL ESSAYS ON SOME DISEASES OF THE HEART; *being the Substance of Lectures delivered before the College of Physicians.* By P. Mere Latham, M.D., Physician to St. Bartholomew's Hospital.

ESSAY V.

Clinical History of Inflammation of the Pericardium.

Acute inflammation of the pericardium may arise as a simple unmixed disease, or as a part of more general inflammation within the thorax, as, when the lungs or the pleura are affected; or in association with disease pervading numerous and distinct parts of the body, as rheumatism.

As a simple and unmixed disease, it is (I should conceive, judging from my own observation) of rare occurrence; as a part of more general inflammation within the thorax not very common; but, associated with rheumatism, very frequent indeed.

The diseases of the pericardium, for reasons already mentioned, submit themselves more readily to clinical diagnosis than the diseases of other parts of the heart. Nevertheless, they are beset with their own perplexities which are more considerable than any belonging to the same class of diseases, (the inflammatory,) in other organs of the body. These perplexities, however, form as much a part of their clinical history as do their more direct and obvious symptoms, and they claim to be as distinctly notified.

One of the children at Christ's hospital had, in the opinion of all who saw him, the severest inflammation of the brain. The attack was sudden, with great heat and frequency of pulse. He had delirium and convulsions, and pointed to his forehead as the seat of his pain. In three days he died, and upon dissection not a vestige of disease was found within the cranium; but the heart was exclusively the seat of the disease, and no other part of the body discovered the slightest morbid appearance. The disease of the heart was not confined to its investing membrane. It was the most intense inflammation pervading both the pericardium and the muscular substance. This is the same case of which I have already related the appearances upon dissection, for the purpose of illustrating the occurrence of inflammation in several structures equally and simultaneously, but I reserved its anomalous symptoms for separate consideration. It occurred twelve years ago. I became acquainted with it through Mr. Stanley, and related it at the time to several of my medical friends; but they looked so incredulous, or rather so contemptuous, of the man who could mistake an inflammation of the pericardium and heart for an inflammation of the brain, that I said no more about it. But twelve years have greatly augmented the number of those who prosecute pathological inquiries by means of dissection; and now, when I venture to mention this case, there are many, I am sure, who can bear testimony to facts of the same kind. But this was a case where, not the pericardium merely, but the whole heart was inflamed.

In the course of last year there was a case of acute rheumatism at St. Bartholomew's hospital in which the whole force of the treatment was directed to the head, from a belief that the brain was inflamed. Upon dissection, the brain and its coverings were found in a perfectly healthy and natural state; and the pericardium, towards which during life there was no symptom to direct the slightest suspicion of disease, discovered the unequivocal marks of recent and acute inflammation.

M. Andral, in his admirable "Clinique Medicale," states a case where there was delirium, general convulsive movements, and twitching of the tendons, during three days. On the fourth day the delirium ceased, but the convulsive movements continued, and the upper extremities were thrown from time to time into a sort of tetanic spasm. On the fifth the delirium returned, and the upper extremities became paralytic; afterwards the patient passed into a comatose state, and died. Upon dissection, neither the brain nor the spinal marrow, nor any covering or appendage of either, nor any other organ of the body, presented the least trace of disease, except the heart. The morbid appearances belonged solely and exclusively to the pericardium, and consisted of lymph deposited upon its surface, which had contracted slight adhesions, and some ounces of a green and flaky serum effused into its cavity.*

These cases furnish specimens of the enormous difficulties which medical men have sometimes to contend with in the diagnostic part of their art, and they ought to mitigate the censure of those who would judge harshly of our mistakes.

Here it is remarkable, first, that a vital organ should sustain an acute inflammation without any symptom whatever immediately referrible to itself, and that organ the heart: and, secondly, that it should impart expressly to another organ, not the mere symptoms of common derangement, but the authentic symptoms of inflammation, and that organ the brain.

It is very conceivable that inflammation may creep slowly on a part, and injure its structure by little and little, and yet the part give no notice of its morbid condition by any notable disturbance of its sensibilities and functions. Daily experience furnishes examples of the fact even in the heart itself; but in proportion as the disease is more acute and expressly limited to one organ, and that organ is more essential to life, experience would lead us to expect that its proper and definite symptoms would be present from the first.

Again, if the symptoms be not prominently declared in the organ affected, experience would lead us to look for them in parts between which and that organ there is a relative dependency of function. If the kidney be diseased, and there be not a certainty of the fact, from symptoms immediately belonging to itself, there may still be a strong probability of it from symptoms which belong to the bladder. If the heart be diseased, and its own symptoms do not declare the fact, it is often suggested by symptoms which arise through the medium of the lungs.

But diagnosis is necessarily perplexed and baffled where no symptoms whatever are found in the organ really diseased, and none in those with which it is functionally allied, but in some other organ with which it has no known connexion, save that they are both parts of the same body. And, further, a just diagnosis becomes absolutely hopeless when the organ, thus suffering sympathetically, puts forth, not the signs of a mere indefinite ailment, but of a real disease, changing and disorganizing its structure: as when the brain, being perfectly healthy, manifests the signs of acute inflammation, while the heart, being acutely inflamed, gives no evidence of its disease whatever.

But, leaving the consideration of these hopeless perplexities, we will pass to other difficulties in the diagnosis of pericarditis, which rather cause its existence to be occasionally overlooked than that it should be mistaken for another disease.

Unquestionably I have seen it entirely overlooked when it has been the sole disease, and the sole cause of death. A few instances have occurred within my knowledge of individuals having been picked up in the street, and been sent into the hospital in a dying state, who, nevertheless, have survived for a few days, and afforded time to investigate the conditions of their disease. Nothing, however, was made out concerning them but that they were dying; and not the least conjecture could be formed where their disease was, or what it was. Upon dissection, the pericardium was found covered with lymph, and its cavity distended by turbid serum.

But perhaps it is hardly fair to bring these forward as cases in which the disease has been overlooked, inasmuch as it is scarcely possible that it could have been discovered. Where a fair opportunity is afforded of observing it, the cases, I believe, are very rare in which pericarditis is overlooked entirely, but they are by no means unfrequent in which it is overlooked partially, and for a time.

Now, the common difficulties attending its diagnosis may be referred partly to the variableness of its own symptoms and partly to the variableness of the manner and circumstances under which it is combined with other diseases.

Disease belongs most unequivocally to the heart when pain is immediately referred to it, and when its action is disturbed. And when there is fever withal, it bespeaks the essence of the disease to be inflammatory, and fixes it, almost to a certainty, in the pericardium. But why in the pericardium more than in other parts of the heart? Because it is matter of experience, that above all others the pericardium is liable to acute inflammation in an incalculable proportion.

But, strange to say, the pericardium may be acutely inflamed and yet there may be no pain. And the disturbance of the heart's action is so little of one kind in all cases, that no certain mode of disturbance can be relied upon as a diagnostic symptom; and though fever may be present wherever there is pericarditis, there is often, at the same time, inflammation of some other organ out of which it may arise.

The disease with which pericarditis is most frequently found in association is acute rheumatism; so frequently in children and in young people, that in them our suspicions are always alive to its occurrence. Yet we know not when to expect it, or what to regard as a warning of its attack. It is incident to all the degrees, and all the stages, and all the forms of acute rheumatism. It is not more to be looked for when the disease is severe than when it is mild; more at its beginning than during its progress and decline; more when it is shifting and inconstant in its seat than when it is fixed and abiding.

Still I am persuaded that, in the great majority of cases, pericarditis may be and is detected time enough to allow the application of remedies for its cure, both when it occurs alone and in all its combinations.

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* Clinique Medicale, v. 3, 444; also, Rostan sur Ramollissement du Cerveau, 233.

It is true that the symptoms of one case (even the most prominent and obvious symptoms) may differ from those of another; but every such difference need not be a cause of embarrassment.

In one case the heart, by the violence of its contractions, will knock against the ribs and shake the chest; and this tumultuous action will continue as long as the disease continues, and undergo no considerable abatement but by cure or by death. In another, the heart will contract so feebly that its pulsations can hardly be heard or felt. With the diminution of force the heart's action will become strangely irregular, and with the augmentation of force it will maintain a constant regularity. But these differences are capable of being explained by the essential conditions of the disease: and why, then, should they embarrass our diagnosis? Again, in one case of pericarditis, such a posture of body seems to be required as will leave the chest free to expand itself, and nothing more. The patient lies upon his back, with his shoulders a little elevated, and being so placed he is unwilling, rather than unable, to stir; and he is unwilling because motion excites the action of the heart and hurries the respiration: and during the whole course of his disease he will retain the position with which he began, and still lie constantly on his back. In another, the patient will raise the trunk of his body erect, or bend it a little forwards towards the knees. In another, he will lie strictly on the right, and in another strictly on the left side. But the strangest anomaly is, that the same patient who, at one period of his disease, has fixed himself immoveably on the left side, will, at another, be forced to turn over and fix himself as immoveably on the right.

All these several positions, with the exception, perhaps, of that on the back, are positions of absolute constraint. The necessity of accommodation to any one of them (whatever it may be) is so urgent, that the patient is not merely unwilling, but feels as if it would be instant death to him to move.

Now, that the rhythmical as well as the irregular pulse, the forcible as well as the feeble pulse, and that every variety of bodily posture should be incident to inflammation of the pericardium, would seem to create a strange perplexity in its diagnosis: a perplexity which mere clinical observation, unaided by morbid anatomy, never could have been able to resolve. Reason and common sense seem to declare that there cannot be the same disease of the same organ, and yet the most prominent symptoms be absolutely different. But morbid anatomy is not content merely to contemplate a disease in its general character and have done with it: it takes into account also the various morbid products and changes of structure accompanying it or resulting from it. In pericarditis it takes cognizance of the lymph deposited upon the surface, and of the fluid effused into the cavity of the pericardium; the different quantities of each in different cases, and the different proportions which they bear to each other. It notices also, that the lymph sometimes contracts a partial and sometimes a complete adhesion, and sometimes none at all; that the fluid is sometimes freely effused into the pericardium and envelops the whole heart, and is sometimes limited by adhesions to a part of it.

These conditions must influence the action of the heart in various ways; and morbid anatomy, knowing these things, suggests to clinical observation, with respect to pericarditis, that, as its products are different, so too must its symptoms be in different cases, and even in the same case at different periods.

In pericarditis a vast difference arises in respect to symptoms, according as the solid or the fluid products of inflammation predominate. It is in consequence of the products of the inflammation consisting chiefly of solid coagulable lymph, and of that lymph quickly producing a complete adhesion of the pericardium, and thus preventing the possibility of fluid being effused into its cavity, that the force, and even the regularity, of the heart's action, with which the disease began, is continued throughout its whole course, and that there is no absolute necessity of accommodating the trunk of the body to one constrained position.

On the other hand, it is in consequence of the products of the inflammation consisting chiefly of fluid, whereby adhesion is prevented, and of the fluid continuing to increase, that the heart's action, from being violently excited, becomes soon scarcely perceptible, and fluttering and irregular; and that to swerve from one constrained position is at the peril of instant death.

Further, in pericarditis a vast difference arises in respect to the period during which life is capable of being sustained, according as the solid or fluid products of inflammation predominate. If pericarditis be not immediately cured, it will depend upon this contingency whether it do or do not prove immediately fatal. Where the heart suddenly loses the force and rhythm of its action, and flutters and falters, and stops, and gasping and fainting follow the least deviation from a given position, the patient will be quickly dead, if, by virtue of your remedies, you do not quickly change the conditions of his disease; and, being dead, you will find the heart floating in the fluid which distends the bag of the pericardium. But where the heart still maintains the force and rhythm of its action, without any very urgent necessity of accommodating the body to one position, (conditions which are consistent with the most acute inflammation,) your patient will not die immediately, although your remedies do not procure the least mitigation of his disease: but he will continue to live probably for some weeks, and will then die, as if he were exhausted by the violent action of his vascular system; and being dead, you will find no fluid in the pericardium, but solid lymph accumulated upon it, in quantity proportionate to the duration of the disease.

In these ways will acute pericarditis terminate, if it be left to itself, or be uninfluenced by the remedies used: death ensuing sooner or later, according as the fluid or the solid products of inflammation predominate.

Now, to ascertain, as far as possible, the natural course and termination of a disease, opens the way to a clear understanding of the natural processes of its reparation, and to rational methods of treating it.

But it may be said that, in the strictest sense, the natural course and termination of pericarditis never can be ascertained. For it is not exactly one of those diseases in which the physician is accustomed to look on and do nothing; and although, in many cases, his remedies may fail to save life, it can hardly be supposed that in any they have not some influence upon the character of the disease.

The fact hardly admits of certain proof, whether they have or have not. Nevertheless, practical men have a moral conviction that cases do frequently occur where a disease, being treated by the most active remedies from the beginning, has, notwithstanding, proceeded and terminated in the same manner as it would have proceeded and terminated, if it had been left to itself.

Purulent ophthalmia may be mentioned as an instance. Its natural course and termination having been sufficiently ascertained from cases to which no remedy has been applied. The whole conjunctiva becomes intensely red; an enormous purulent secretion takes place from every part of its surface, and an enormous collection of serum in the whole cellular texture beneath it. The inflammation spreads to contiguous structures; the cornea sloughs and bursts, and the eye is gone for ever. This is the course and termination of purulent ophthalmia, when it is left to itself. But a thousand instances might be quoted where the same inflammation, treated from the beginning by the most active remedies, has proceeded and ended in the same way.

Now I cannot say that I ever saw any known case of acute pericarditis left entirely to itself. But I have seen cases where, to the best of my belief, the remedies employed had not in the slightest degree disturbed the natural progress and termination of the disease. That this is a possible event the history of purulent ophthalmia sufficiently proves.

But pericarditis, in its most acute form, whether it occur alone, or accompanied by pleurisy or peripneumony, or as a part of rheumatism, is capable of complete cure.

In all cases, however, a considerable period must elapse before the certainty of such a cure is established. I do not mean to say, that the process of reparation is in itself necessarily tardy: I rather think that it is not so. But, whether it be rapid or slow, the time must necessarily be long before the physician can gain all the evidence he requires, to convince himself that the reparation is complete. in fact, the patient must first have returned to the habits and occupations of health, and the physician must know whether the heart can bear the stimulus of healthy exertion, before he can feel an assurance that it is free from disease.

In the worst cases, these three symptoms—the faltering pulse, the constrained position, and the threatening syncope, which arise simultaneously—are thought to depend essentially upon the same morbid condition; namely, effusion of fluid into the pericardium, and these, when they disappear (as they often do) simultaneously, give evidence that this same morbid condition is abated or removed; namely, that the fluid is absorbed, or is in the course of absorption. One may pronounce with tolerable certainty, from the observation of symptoms, that reparation has proceeded thus far.

But there may still be pain in the region of the heart, and the action of the heart may be excessive; and these symptoms, accompanied by fever and a particular anxiety, denote that inflammation is going on, and (since inflammation, if it is not secreting fluid, is depositing lymph) assuredly, as long as they continue, a greater and a greater accumulation of lymph is taking place upon the pericardium.

Now, by keeping the attention steadily fixed upon these symptoms, it is possible to form, I will not say a certain opinion, but a reasonable conjecture, as to the period when the inflammation ceases, and the stop is put to the further accumulation of lymph.

Their entire disappearance simultaneously would furnish the most satisfactory evidence of what we desire. But this seldom happens. Yet there is something short of this: there are changes in their form and character which furnish good reason for believing that the disease is no longer progressive.

Practical men know a distinction between the merely hurried circulation and the strong impulse and sonorous contraction of the heart; and they know a distinction also between mere general uneasiness about a part, and a fixed, undeviating pain, within it. When, therefore, in pericarditis the strong impulse and sonorous contractions of the heart are gradually exchanged for a merely hurried circulation, and the fixed, undeviating pain in the heart becomes a more general uneasiness about it, and, at the same time, the peculiar anxiety which has been mentioned, is less and less apparent, we may pronounce, with some confidence, upon the decline of the inflammation.

But let it be borne in mind that neither the decline of the inflammation, nor its absolute cessation, are the same thing with a reparation of the injury done to the organ. Reparation implies that no lymph remains upon its surface, and that the folds of the pericardium do not adhere. But lymph, organized lymph, adhesion, complete and permanent adhesion, may still subsist after the inflammation has entirely passed away.

In pericarditis, where the patient survives, and when we have come to the conclusion that the inflammation has altogether ceased, there will still remain the more important question to be determined—is the reparation complete? As long as, with every advantage which the most perfect quiet can procure, the heart's action is not reduced to the force and measure of health, so long it is reasonable to believe that it is not complete. And even, when the heart's action cannot be discovered to be otherwise than healthy, it is still not unreasonable to doubt whether reparation be yet complete, until the patient has resumed his ordinary occupations.

The cases of pericarditis have not been few which I have known discharged from hospitals as perfectly cured; and indeed, from present circumstances, they might well be presumed to be so. Yet in a short time these same patients have returned, complaining of severe palpitations, which arose as soon as they resumed the habits and occupations of health. The quiet of an hospital has again restored them. They have been again discharged, and have again soon returned with the same complaint.

The ability to do and bear all that the man could do and bear in the days of his health, is the surest criterion that the heart has undergone perfect reparation after an attack of pericarditis.

There is one symptom derived from the new method of auscultation to which I desire expressly to direct the attention of medical men. When in acute rheumatism the pericardium becomes inflamed, the contraction of the ventricles is accompanied, or immediately followed, by a distinct whizzing noise, which is perceptible to the ear immediately applied to the chest, or by help of the cylinder. It is the "bruit de soufflet," as the French call it; the noise of the blowing of bellows.

I am not called upon to determine the general value of auscultation, as an aid to diagnosis. Probably it does not deserve all the high commendation of its inventor, and its early advocates, and still less the absolute contempt and rejection which it has incurred at the hands of others. I confine my remarks to a single sign derived from it, contributing something, I believe, towards the diagnosis of a particular disease; and am content to affirm, that during more than three years in which I have practised the method of auscultation with some diligence, and, as a security against self-deception, have admitted no result of my own observation which has not been confirmed by that of others, the sign in question, of the peculiar sound accompanying the contraction of the ventricles, has not been absent in any one authentic case of rheumatic pericarditis. And in three years the number of such cases in so large an hospital as St. Bartholomew's is considerable.

My observation is restricted to *rheumatic pericarditis*. The same sign may attend pericarditis arising under other circumstances; but I do not know that it does.

In rheumatic pericarditis the brouissement, or bruit de soufflet, is always among the earliest symptoms referrible to the heart, and sometimes the very first. Having once appeared, it never subsides but with the complete reparation of the organ. The heart may resume its natural action; all pain and all hurry of respiration may cease, and the patient, as long as he remains quiet, may believe himself well; yet the brouissement may remain: and if so, his return to the habits and exertions of health will bring back palpitation and other symptoms which bespeak the certainty of mischief still abiding in the heart.

It is a disease in which there is no medium between complete reparation and certain death; it is a disease which continues for a very brief space of time within the possibility of cure; and, moreover, it is a disease which cannot be successfully combated by common remedies. I will mention what my opportunities of observation have taught me concerning its treatment in its earliest stages, the period at which alone it admits the salutary impression of any remedy.

It has been already said, that acute pericarditis will proceed sometimes uncontrolled to its fatal termination, in spite of the most active medical treatment.

There are conditions of inflammation, (how far they belong to the inflammation itself, and how far to the part it occupies, it would be difficult to determine) but there are conditions of inflammation, which simple depletion, under the most favourable circumstances, is totally inadequate to surmount. When these conditions occur, (and indeed they do occur with sufficient frequency,) medical men must be content to look on and witness, in spite of their efforts, the inevitable destruction of organs, if they did not possess a remedy upon which they could rely, reaching beyond the curative influence of mere depletion, and capable of supplying its defects.

The remedy is mercury.* But the conditions of inflammation requiring its administration can no further be defined than that they are connected, in some manner, with the deposition of lymph in certain parts of the body; and one of these parts is the pericardium.

From acute pericarditis, which has proceeded to the deposition of lymph, nothing, I believe, can ensure a perfect recovery, but mercury so employed as to produce its peculiar and specific influence upon the constitution; mercury producing salivation. I would not hazard this assertion unless I firmly believed that the fact was brought as near to demonstration as the nature of things will allow.

I know that common remedies alone will often succeed in arresting the progress of the inflammation, but not always. I know that common remedies alone will often rescue the life of the patient, but that, unaided by mercury, they will not procure a perfect reparation of his disease. To arrest the disease and to rescue the patient's life would seem quite enough for us to expect from any remedy. In parts not vital it may be enough. After the inflammation of a limb, tendons may be left adherent to their sheaths, and cellular substance thickened and glued together, and joints in a state of anchylosis, whence an inconvenience arises, but no peril. But after an inflammation of the pericardium has absolutely ceased, and the patient's life is saved for the present, if the adhesion remain, death will nevertheless be its consequence in the end. This will be explained hereafter.

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* I owe my knowledge of this remedy to Dr. Farre, sixteen years ago.

It has been remarked, as an evidence of some strange caprice in medical opinion and practice, that mercury, which a few years ago was only employed as a specific for a single complaint, should now be resorted to in very many diseases incident to the human frame. But, indeed, it is no caprice, but the advance of sound pathological knowledge, which has done this. Formerly, every disease had its own proper remedy, and there were as many remedies as diseases. But then, what were diseases but names, and what were remedies but a number of mysterious agents directed to no definite purpose? Sound pathology, however, which has been continually diminishing the number of nominal diseases, and reducing them to a few simple principles of morbid action, has at the same time greatly abridged the catalogue of medical agents. For that rational practice which is founded on it is conversant with no other remedies, except those which are capable of fulfilling plain and definite indications—indications few in number, but of vast comprehension, since they respect a few principles of morbid action involved in a thousand nominal diseases.

Now mercury is one of these remedies. But it may be asked—what are the plain and definite purposes which mercury can fulfil, that it should have become a medical agent of such extensive use?

One purpose (and that which I am at present concerned to explain) is, that it arrests the deposition, and promotes the absorption of lymph in acute inflammations. The most obvious example in attestation of the fact is found in inflammation of the iris. It is not merely in syphilitic inflammation of the iris, but in inflammation arising under any circumstances, which proceeds to the deposition of lymph, that mercury, pushed to the extent of producing salivation, is required, to rescue the patient from blindness. As soon as the mouth becomes sore, and not sooner, the red cluster of blood-vessels which tended to the margin of the cornea becomes paler and paler; the drops of lymph which studded the surface of the iris cease to increase, and then begin to lessen, and gradually disappear. The aqueous humour becomes clearer; the pupil, which was rendered irregular by partial adhesions, recovers its circular form, and vision is perfectly restored.

In the eye we may behold the miniature of all diseases. For here nature has displayed, as in a glass, all the little intimate details of her own wonder-working powers: her modes of disorganizing, and her modes of repairing; and the aids which she receives, and the impediments which she sustains, from the right and wrong application of medical agents.

There are inflammations of internal organs, which bear a striking correspondence to inflammation of the iris, in being characterized by an extensive deposition of coagulable lymph, and requiring mercury for their cure. The most frequent and the most notorious example is found in pericarditis—that pericarditis especially which accompanies rheumatism. Here the symptoms during life are those which have been already mentioned, as strongly indicating the predominance of the solid over the fluid products of inflammation: and here dissection after death uniformly discovers solid lymph upon the pericardium, with very general or complete adhesion.

Of rheumatic pericarditis, treated by common antiphlogistic remedies, unaided by mercury, these (as far as I have had the opportunity of observing,) have been the results—the fatal results. Sometimes the disease has proceeded, entirely unchecked, to its fatal termination, and the patient has died, exhausted by the violent action of his vascular system, in the course of two or three weeks. Sometimes the disease has been checked, but only checked; for although the force of the circulation has been abated, the action of the heart has never returned to the measures of health. Sometimes the disease has been apparently cured: the force of the circulation has been not merely checked, but the action of the heart could not be distinguished to be otherwise than healthy except to those who scrutinize its action by the ear; who, if the pericardium really adhere, will never fail to discover the brouissement which may be the only symptom of its disease. Yet this deceptive cure has continued only so long as the patient has been submitted to the restrictions of an invalid; as soon as he has returned to the habits and occupations of health, the heart has again begun to palpitate, and given certain evidence of its permanent disease.

These results have been most strikingly confirmed to me by some miserable cases which have lately come under my own observation and treatment; cases in which the constitution was insusceptible of the impression of mercury; and, consequently, no resource remained for the cure of the disease.

Early in an attack of acute rheumatism, a boy, 12 years of age, manifested the unequivocal symptoms of inflammation of the pericardium. Antiphlogistic remedies, and counter-irritants, and mercury, were all seasonably employed. The mercury failed to produce salivation: the boy survived three weeks. In the meantime the inflammation was in full activity; and he died, as if exhausted by the vehement impulse of his heart and arteries. Upon dissection, the pericardium was found almost universally adherent. The coagulable lymph, which was the medium of adhesion, was nearly a quarter of an inch in thickness; and when the lymph was detached from the pericardium, this membrane was generally smooth and white, and here and there distinguished by bloody points. The muscular structure of the heart was of a pale yellow colour, and soft of texture. Of this latter appearance, as connected with pericarditis, more will be said hereafter. From the symptoms during life, and from the morbid appearances upon dissection, there is good reason for believing that the inflammation of the pericardium was still going on, and that coagulable lymph still continued to be effused up to the period of the patient's death. Mercury was employed from first to last, but it produced not the slightest appearance of salivation. The disease proceeded and terminated, as it probably would have done if it had been left entirely to itself, and no remedy whatever had been employed.

A girl, 10 years of age, suffered an attack of acute rheumatism, which was not very severe: it had already endured for several weeks, when she was admitted into St. Bartholomew's hospital. At the time of her admission, the swellings had subsided, but there was still some pain in the ankles and knees, and some stiffness of the neck; and there was still some fever. She had complained of no uneasiness in the chest, and no palpitation, from the commencement of her disorder to the present time. When she was settled in the hospital she did not throw off the relics of her complaint, as might have been expected. She remained feverish and uneasy, but without any symptoms which could justify a belief of inflammation attacking the pericardium, until the sixth day after her admission. On this day she complained of catches of the breath, and stitches in the left side. The fever was greatly increased; the pulse greatly accelerated; and the heart contracted with a loud and forcible impulse. Of these symptoms I was informed as soon as they declared themselves, and not an hour was lost in resorting to the remedies thought necessary for their relief, to common antiphlogistic remedies, and to mercury, for the purpose of salivation. Venesection, leeches, blisters, were employed successively and repeatedly; and each of these remedies had its beneficial effect. The venesection abated the force of the heart's action, and the jerking of the pulse, again and again; and the leeches and blisters again and again abated the pain in the side, and the hurry of respiration. But the palpitation of the heart, and the jerking pulse, the pain and hurried breathing, again and again returned. It seemed as if these remedies were sufficient for procuring present relief, but as if something more was wanting to render the relief permanent. This, it was hoped, would presently be ensured by the mercury; but one day passed after another, and still there was no perceptible effect of mercury upon the gums. In the meantime the symptoms continued their frequent interchange of remissions and aggravations. The mercury was at first given internally only, in the form of calomel; afterwards, by inunction also. But, after eighteen days, during which it was constantly employed, it had not produced the least perceptible ptyalism. It was in vain therefore to insist upon its further use: for, in this disease, certain as the remedial effect of mercury is known to be, it is no less certain that this effect is restricted to the condition of its specific impression upon the constitution being rapidly produced. The cure of the disease was now as far beyond the reach of mercury as of all other remedies.

But in this case it could not be said that the means employed had done nothing. At the end of three weeks the patient not only survived, but her life was no longer in jeopardy from day to day; the symptoms were reduced from their general character of severity, and their exacerbations were less violent, and at more distant intervals.

This patient remained in the hospital ten weeks, and for several weeks before she was discharged she was able to move about the ward; but a hurried breathing, and a forcible and sonorous action of the heart, were constantly present, which, with a peculiar anxiety of countenance, left no doubt of a permanent and incurable disorganization, which, sooner or later, must terminate fatally.

Another case must be added to illustrate the apparent cure of rheumatic pericarditis by common antiphlogistic remedies, without the aid of mercury; the failure and deceptiveness of which is revealed as soon as the patient returns to the habits and occupations of health.

My office of physician to a large hospital has made it my first professional duty to assist the studies of those who resort to it for instruction; accordingly, having one day ventured to state my belief to the pupils, that mercury was essential to the cure of rheumatic pericarditis, and their minds being turned to this interesting subject, Dr. Roupell informed us, that he had not long ago seen a case (and his account was confirmed by others who had seen the same case) in which the disease, in its severest form, had entirely yielded to common antiphlogistic remedies and counter-irritants. Of these a large seton, inserted in the left side, appeared the most strikingly beneficial, and the patient left the hospital, according to the testimony of all observers, perfectly well.

My entire confidence in the accurate observation of Dr. Roupell, and the concurrent belief of all who had seen the case, would not allow me to doubt of its reality, and it became me ever afterwards to guard my doctrine with a proper respect for this special exception.

Not long after this occurrence was made known to me, there appeared among the candidates for admission to the hospital, a poor girl, with a pale and most anxious countenance, a hurried respiration, and a short and frequent cough, and with the heart bounding and striking against the ribs with unusual force and frequency. Being removed into the ward, she was recognised as the individual who had furnished the notorious example of pericarditis *cured* without the aid of mercury.

Upon inquiry it was found that soon after her dismissal from the hospital, when she returned to her ordinary occupation, she became sensible of her heart beating with unnatural force; but this simple palpitation was all she suffered. It became constant, and capable of being considerably aggravated by any exertion; still she had no complaint beyond simple palpitation, until, three weeks ago, she was again attacked with pain and swelling of the joints, attended by fever, whereupon difficulty of breathing and pain in the region of the heart, and cough, were added to a severer degree of palpitation.

In two days after her reception into the hospital her general rheumatic symptoms subsided; but the symptoms referrible to the heart were unabated and very severe. It was necessary to attempt their relief. Leeches and blisters were applied again and again, and all the relief that was expected was obtained; that is, the symptoms were again reduced to a mere palpitation and brouissement, and a state of tolerable comfort was procured, upon the condition of the most perfect quiet. After the lapse of a month the poor girl left the hospital, believing herself much better; but her heart, by its inordinate action, accompanied by a loud brouissement, still gave unquestionable evidence of its incurable disease.

It has been said that diseases, which pervade several or all the structures of the heart, have their origin frequently either in the pericardium or in the internal lining; and it was proposed to follow them from structure to structure, according to the discoverable traces of their natural order. With this view, beginning with the pericardium, we have already described clinically certain conditions of disease which primarily belong to it. It remains that we take up the subject where it was left, and pursue the history of pericarditis to its consequences in those cases where the patients survive, but the cure is not perfect.

Such a history opens a most interesting and extensive field of practical and pathological inquiry; but I can only enter into so much of it as will serve to fulfil the present purpose I have in view, namely, to illustrate the natural course of diseases of the heart which have their origin in the pericardium.

In acute pericarditis there is no medium between complete cure and certain death; and the cure may be incomplete in two ways. The inflammatory action may be abated but not annulled; or the inflammatory action may be annulled, but the organ may not be restored to its healthy condition.

Now it makes a vast difference in our calculation of results in which sense the incompleteness of the cure be predicated. If the cure be incomplete, because the morbid action, although greatly reduced, does in some degree still exist, the period of dissolution is only a little postponed; for death will result from the actual disease then in progress, from the injury derived to the functions of the heart from the then existing inflammation.

If the incompleteness of the cure of pericarditis be taken in the other sense, namely, that the morbid action has absolutely ceased, but that an injury is done to the heart which is irreparable, death will still be the inevitable consequence; but it will arrive by different gradations, and after a much longer period. It will result, not directly from the inflammation, but indirectly from the condition of permanent injury in which the heart is left after the inflammation has ceased. From this condition a new series of actions, partly vital and partly mechanical, will arise; and will operate their own changes upon its structure and functions, and upon the structure and functions of other organs, which must terminate in death.

Under these circumstances existence is capable of being greatly protracted; for when the inflammation has ceased this new series of actions has yet to begin; and having began, it is only gradually and tardily that it can bring about that amount and variety of suffering which is incompatible with the continuance of life.

Before we come to the real pathological conditions of which the diseases springing from this source are constituted, we must first run over their clinical history.

The course and character and duration of the symptoms, will vary considerably in different cases.

It is by no means uncommon, in cases where the cure is complete, by reason of adhesion remaining after the subsidence of the inflammation, for the patient to believe and profess himself well during a considerable period. This happens especially to people who are habitually inattentive to their own sensations, to children, and to those whose situations in life do not call for active exertion. These people, however, if they accurately compared the condition of their bodily health, after the attack of pericarditis, with what it was before, would find that there was something which they could do or sustain then, which they cannot do or sustain now; and that this failure of their powers is respective to the functions of the heart.

The girl, already referred to, who presented herself at St. Bartholomew's Hospital, with palpitation and pain at the region of the heart, and a hurried breathing, and who six months before had suffered acute rheumatism, with severe pericarditis, and was perfectly cured, (as it was supposed,) without the use of mercury; this girl at first told us that after her return home she had no ailment whatever. Being further questioned, she said, " to be sure I could never go up stairs without losing my breath and making my heart beat, but there was no harm in that." An aggravation of the symptoms arose with a fresh attack of acute rheumatism, when the nature of the disease affecting the heart was unquestionably ascertained. There are several children and young people who come occasionally to St. Bartholomew's hospital, at my request, to give me the opportunity of watching the progress of their complaints. They have all palpitation of the heart, accompanied by a loud brouissement. These symptoms, with others bespeaking inflammation of the pericardium, first arose during an attack of acute rheumatism. The rest subsided; these remained; and are now the only symptoms to denote that the heart has undergone a perfect reparation.

It well deserves to be mentioned, as a circumstance of some weight in determining the existence and character of the disease, and also as a part of its history, that, if the heart has been left in a state of incomplete reparation after an inflammation of the pericardium which had its origin in an attack of acute rheumatism, whenever such an attack recurs, there will always arise together with it, an aggravation of the habitual palpitation, and a louder brouissement, and, moreover, pain in the situation of the heart. But what is it that takes place under these circumstances? Is the pericardium inflamed afresh? I believe that it is; for parts, when they are disorganized, and especially when they are so disorganized that newly-formed structures enter largely into their composition, are very susceptible of inflammation. The pericardium, with its adventitious covering of lymph, is just in the condition most ready to accept inflammation under circumstances favourable to producing it; and none can be conceived more favourable than those which gave occasion to its original disease.

If this really be inflammation, it might be thought that every fresh attack would be more and more full of hazard to the life of the patient; and if it did not kill him, that it must necessarily leave him in a much worse condition than that in which it found him. But, strange to say, experience allows us to regard such cases with no great apprehension. I have known many die in a first attack of rheumatic pericarditis, but none in any subsequent one. And further, the instances have been very numerous in which, after several attacks of rheumatic pericarditis, I have seen the patient left in no worse a condition, in respect of the symptoms referrible to the heart, than that in which he was after the first attack.

To escape with life from a renewed attack of pericarditis, where the organ is already diseased, and not only to escape with life, but without aggravation of the symptoms which permanently belong to the heart, are possible and frequent events, yet they can only be ensured by discreet medical management. In such cases it is of great importance neither to do too little nor too much. It is true there is a tremendous augmentation of distress immediately upon the accession of this secondary inflammation; but the inflammation is easily made to loose its hold, (if I may so say,) and the distress is soon abated.

Inflammation affecting parts which are previously disorganized, is calculated to increase the morbid products already formed upon them; and it is not less calculated to do so in the pericardium than in other parts. Under these circumstances, however, it is much less active and vigorous than when it falls upon perfectly healthy structures, and it commonly gives a much earlier notice of its existence; and is brought much more easily under the control of medicine.

As to the kind of medical treatment, I would only remark generally, first, with respect to bleeding, that if you direct this mode of depletion with the view of entirely stilling the violent action of the heart and arteries, you propose a false and impossible indication of practice; false, because this violence of action is in part permanent, and has not to do with the present conditions of disease; impossible, because no quantity of bleeding short of that which will kill the patient, would be adequate to the purpose; secondly, with respect to mercury, that all which can be done is within the reach of other remedies, and therefore it is unnecessary.

We are to restrict our practice to the purpose of removing so much of the disease as is superadded by the present attack, and to abstain from pushing either bleeding or mercury to an extravagant extent, as if we proposed to play a successful after-game for the complete cure of the disease of the heart, which is impossible.

It is remarkable for how long a period individuals, under the conditions of disease in question, may, and generally do, survive; eight or ten years often elapse from the first attack of inflammation which laid the foundation of the fatal disorganization of the heart, and the death of the patient; while, in the meantime, the inflammation is repeatedly renewed in the same organ. And it is still more remarkable for how long a period, and after how many attacks of inflammation, the permanent symptoms of the patient, will continue nearly the same, and be strictly confined to the heart itself, without occasioning any constant derangement in the functions of other organs.

I lately saw a young woman, 19 years of age, who was a perfect picture of health—every function of the body was performed with the most complete regularity, and she was quite comfortable as long as she remained still; but she had a strong pulsation within the chest, accompanied with a loud brouissement, and a sense of uneasiness and weight in the region of the heart, and of noise and throbbing within the head. Exactly in this state she had been during three years. Three years ago she had an attack of rheumatic fever (she said,) in which her chest was inflamed, and it left her with a palpitation of the heart, which had continued ever since. She had suffered severe subsequent attacks of acute rheumatism, in all of which the palpitation had been aggravated, and the symptoms referrible to the chest had been as severe as they were at first; yet still at the end of three years the main and permanent symptoms were a mere palpitation and brouissement, with certain inconveniences which are no more than the mechanical consequences of an over-forcible action of the heart.

Such inconveniences are, as they were in this instance, generally referrible to the head. They consist of pain, occasional vertiginous sensations, and ringing in the ears; and to the same cause, viz. the mechanical impulse of blood upon the brain, may be ascribed a symptom which I have often known to be attendant upon these cases from first to last—slight spasms of the extremities, or sudden startings in the sleep.

From what has been said may be collected the ordinary course and character of the disease; but there are cases to which such a description is not suitable—cases in which, from the first attack of pericarditis to the day of his death, the condition of the patient is one of continued suffering: he survives—he is able to leave his bed—but he never recovers the aspect of health: his heart, even in a state of perfect quiet, never ceases to contract rapidly, and with a peculiar sound—his breathing is continually hurried, and he sits still as if he was afraid to stir, and like a man ready to faint upon the least exertion; yet this state of misery is capable of being sustained during many months or years.

But in what manner do such cases arrive at their fatal termination? They have (if I may so say) their natural and their accidental termination; that is, their natural termination when death is slowly brought on by a defect or failure gradually passing upon the functions of other organs, or systems of organs, between which and the heart there is a natural relation and dependency; and that is their accidental termination when death takes place suddenly, before other organs have yet suffered any material derangement of their natural functions, and when it is strictly and exclusively owing to the heart, which, upon some sudden emotion, becomes baffled in its action, and flutters, and falters, and stops, never to go on again. Thus the patient dies of syncope.

The sudden and (as I have ventured to call it,) the accidental mode of death—death not merely by syncope, but by syncope occurring at such a time and in such a manner as to cut short existence long before it has reached the point at which the disease is necessarily mortal —is a most rare occurrence under the circumstances of disease which we are now considering. My own experience does not furnish me with a single instance of death by syncope in cases of organic diseases of the heart consequent upon rheumatic pericarditis. That instances, however, may occur, I am ready to admit, from the very nature of such diseases, and that they have occurred, I must believe upon the best authority. Nevertheless, while death by syncope is a possible hazard contingent upon all diseases of the heart, it is one, I am persuaded, which rarely occurs in any, with the exception of angina pectoris. But in angina pectoris, it is more than an accident. Syncope, or an approach to syncope, is especially characteristic of this disease, from the beginning and throughout its progress, and when the patient at length dies of syncope, it is not by accident, but under an aggravation of its proper and essential symptom.

When death takes place (as it almost always does) as the natural and necessary consequence of a defect or failure in the functions, or of organic changes in the structure of parts between which and the heart there is a vital relation and dependency, these parts give very intelligible evidences of its approach—evidences which are preceded or accompanied by a marked change in the action of the heart, and the arteries themselves.

The heart's action, which has hitherto been heard and felt in its natural situation only, or but little beyond it, is now heard and felt also beneath the sternum, and, perhaps, on the right side of it, as low down as the epigastric region, and nearly as high up as the clavicle, signs which sufficiently attest, whatever other change of structure the heart may have undergone, that its bulk and capacity are greatly increased.

The action of the arteries, the pulse, which hitherto, whatever may have been its frequency or its force, has been almost constantly rhythmical and regular, now begins to manifest frequent flutterings and intermissions.

Irregularity of the pulse is incident to all organic diseases of the heart, but it especially belongs to those in which there is contraction at some of the orifices, and being so produced, it is constantly present.

That class of diseases which we are now considering, are (as will presently appear) commonly independent of contraction of the orifices, and in them, during the greater part of their progress, irregularity of pulse is only an occasional symptom, arising under circumstances of accidental irritation. But, as they approach nearer to their fatal termination, such circumstances become more numerous, and the heart itself more susceptible of their impression, and the irregularity of the pulse more and more frequent.

When the heart's action is thus found to extend far beyond its natural sphere, and frequent irregularities are now perceptible in the pulse, the extremities of the arterial system soon begin to feel and resent the disorder at their source. The capillary blood-vessels, those little wonderful agents of every living function, are forced to yield to the oppression, and admit a separation of fluid into various parts of the body. Hence arise anasarca and dropsy of the cavities, and derangements in the functions of different organs, betokening that the effusion is not confined to serous and cellular textures. The breathing, especially, becomes more and more laborious, with continual expectoration; and it needs, under these circumstances, but a slight attention to ascertain the actual condition of the lungs. At every part of the chest to which you apply your ear, you will perceive the sound which indicates the displacement of fluid by the passage of air. From the trachea, throughout the bronchi, to their extreme ramifications, the whole secreting surface is doing all that it can do, by the separation of fluid, to lighten the burden of blood which oppresses the lungs.

Now, there are many phenomena in the circle of consequences resulting from diseases of the heart, which are not always essentially morbid. Dropsical effusions in remote parts of the body, or large secretion from the air-passages, often produce great relief to the chest. Their beneficial effect is, doubtless, occasioned by diminishing the general mass of circulating blood, and herein is surely contained a rational indication of treatment; for if you employ artificial methods capable of compassing the same end, nature may for a time be spared the trouble of instituting these methods of her own, or for a time will cease to do so, and the patient will be equally benefited. In diseases of the heart, there is good reason for believing that the dropsical symptoms are often postponed by small blood-lettings seasonably employed; and I am certain that no class of internal remedies procure such evident relief as diuretics, even although there are no dropsical symptoms yet present which call for their administration. When they *are* present, the same means often succeed in re-removing them again and again.

The class of organic diseases of the heart derived originally from inflammation of the pericardium, is, more than any of the same organ bearing a different history, capable of having their effects palliated by medical treatment, and for a longer period, and under circumstances of greater extremity. In the deplorable condition which has just been described, when the heart has been felt pulsating far beyond its natural sphere—when the dropsical effusions have been extensive, and motion and the recumbent posture have been entirely precluded, I have seen instances of that degree of relief which has enabled patients to walk about, and to return to their ordinary occupations. Even in the same individuals I have seen the same relief obtained more than once in the like extremity.

Good reasons, I believe, may be given for this postponement of the evil day in the class of diseases under consideration, and I will endeavour to explain them hereafter.

But it is a hard necessity, by which medical men are compelled to adopt the most painful expedients, to bleed, and to blister, and to apply every species of irritant to the surface more and more frequently as the disease advances: for they all eventually fail.

And it is a hard necessity, by which nature herself is compelled to force every part of the capillary system into new and extraordinary action, for the purpose of relieving the urgency of disease at the centre. For thus, by the magnitude of her own efforts for relief, she eventually operates her own destruction. At length neither the powers of nature, nor the resources of art, can longer avail, and the patient must die.

He may die overwhelmed by the excess of dropsical accumulations. But this is not a common mode of death in the class of organic diseases of the heart which we are now considering. I have seen numerous instances where, at the time of death, there has been very little fluid, either in the cellular structure or in the cavities of the body; and I have seen some where there has been none at all.

Or, he may die in consequence of disease and disorganization extending to other vital parts besides the heart. This is, according to my experience, the most frequent and immediate cause of death; and the part which most frequently undergoes this disease and disorganization is the lungs. The perpetual activity of the capillary system to relieve the lungs from their oppression terminates by inflaming them, and thus large portions become solidified, and incapable of the transmission of air.

I have seen instances of death by convulsions and palsy, when serous or bloody extravasations have been found within the cranium.

This is a brief clinical history of one important class of organic diseases of the heart; those, namely, which have been presumed to have their origin in the pericardium. Let us now proceed to consider the real morbid conditions found upon dissection, with the view of fixing more accurately their origin in the pericardium, and their subsequent progress in other structures of the heart. In cases where the clinical history has been such as we have set forth, the following morbid appearances have been found upon dissection after death.

The folds of the pericardium have been always united by coagulable lymph. Sometimes there has been simple adhesion of the pericardium, and nothing more.

Sometimes there has been adhesion of the pericardium, with softening of the muscular substance of the heart, which has lost its characteristic redness, and assumed the colour of a leaf when it is beginning to fade.

Sometimes there has been adhesion of the pericardium, with softening, and also attenuation of the muscular substance.

Sometimes there has been adhesion of the pericardium, with thickening of the muscular substance, which has retained its characteristic redness.

Sometimes there has been adhesion of the pericardium, with dilatation of some or all the cavities of the heart, and that dilatation has been either with attenuation or thickening of the muscular substance.

And sometimes there has been adhesion of the pericardium, with general opacity or partial thickening of the internal lining, or with deposition of lymph upon it, or the growth of minute excrescences, like warts, from its surface, and with or without disease of the muscular substance.

Such is the number and variety of morbid changes connected with a certain class of symptoms, appertaining to the heart. Many of them appear, at first sight, essentially different from, and opposed to each other.

Where, upon dissection, a disease is found to involve more than one part of an organ, it is not possible to determine, by simple inspection, in which part it had its origin, and in what way it was communicated from one part to another. In short, by simple inspection merely, although it be a thousand times repeated, you can obtain no certain knowledge about the matter. The objects of morbid anatomy are *alone* totally inadequate to explain themselves. It has often been remarked (and most truly) how much light is derived from morbid anatomy towards the explanation of symptoms; but it has been less frequently noticed how much light is derived from symptoms towards the explanation of morbid structures. In fact, the illustration is reciprocal; as, on the one hand, no knowledge whatever would be possessed of half the diseases which we see and treat in the living body, but for the changes of structure found upon dissection after death; so, on the other hand, no knowledge whatever would be possessed of half those changes of structure after death, but for the symptoms which have occurred during life. It is true that no man can be a physician, in any large sense, unless he be a morbid anatomist; but it is equally true that no man can be a morbid anatomist unless he be a physician.

The disease under consideration is an example which strongly confirms the truth of these observations. Much of what has been said concerning its clinical history still waits to be explained by the appearances on dissection; and the appearances on dissection will require to be elucidated by a reference back to its clinical history.

In the summary which has been given of morbid appearances upon dissection, there is one particularly distinguished from the rest. Whether death take place soon after the accession of the disease, or after its continuance for months or for years, adhesion of the pericardium is most certainly and constantly found; and it is sometimes, though rarely, found alone.

The same cannot be said concerning any other of the morbid appearances which have been specified—not one of them can be mentioned as constantly present—not one of them was ever found alone—not one of them was ever found unaccompanied by adhesion of the pericardium.

If, then, there be any part of the disease which is essential and inseparable, it must be inflammation and adhesion of the pericardium, —if there be any which is primary with respect to the rest, and out of which the rest may possibly arise, it must be inflammation and adhesion of the pericardium. The mere inspection of the dead body would lead one to suspect as much,—the inspection of the dead and the observation of the living body together, leave no doubt that it is so.

Where simple adhesion of the pericardium has been found, and nothing more, it has been in those cases where the patient has died within a few weeks after the accession of the disease, the inflammation having been in full activity up to the period of dissolution.

In some few instances adhesion of the pericardium, and nothing more, has been found after the lapse of two or three months from the accession of the disease, the inflammation in like manner continuing active to the last. Under these circumstances, the coagulable lymph upon the pericardium has been in quantity proportionate to the duration of the disease.

There are two cases given by Andral exemplifying these morbid conditions. The patients were two young men, between 20 and 30 years of age, who both died dropsical in a few months after the first accession of pericarditis: there was nothing further remarkable in the symptoms as they respected the heart and arteries, than that in one case the pulse intermitted, and in the other it was of an extreme frequency. One was a case of acute pericarditis, in which the cure was interrupted by the patient leaving the hospital under a false notion that he was well; the other was of a more chronic kind from the beginning.

Upon dissection, the pericardium was found adherent in both cases; and in both cases the lymph formed upon the pericardium was more than an inch in thickness; and in both the heart itself was of its natural size, and perfectly free from disease.

Here we see, that as long as the inflammation continues, lymph, which is its essential product, will still be deposited, until, by its accumulation between the folds of the pericardium, it may so oppress the heart as to occasion death, independent of disease in any other part of its structure.

Further, adhesion of the pericardium, united with a general softening of the muscular substance of the heart and a fading of its colour, while its natural bulk and capacity are yet unchanged, seems to belong to cases of recent disease, where the patients have died during the actual progress of the inflammatory action. Paleness and softening of the muscular substance have been enumerated among the characteristic marks of its inflammation.

As an example of rheumatic pericarditis proceeding unchecked to its fatal termination, I have already given the case of a boy who died in three weeks from the first accession of his disease. In him, besides the adhesion of the pericardium, and the accumulation of lymph, half an inch thick between its folds, "the muscular substance of the heart was of a pale yellow colour, and soft of texture."

In this case we have cognizance of the inflammation just after it has been imparted from one structure to the other. The pericardium is inflamed, and the muscular substance is inflamed—this is all: the organ still retains its natural bulk and capacity, and it is probably the actual force of the existing inflammation which kills, and not the extent of the injury. It is true the injury, as far as it has gone, is irreparable,—the adhesion of the pericardium can never be resolved, and the muscular substance can never recover its firmness of texture. Nevertheless, could the inflammation be made to cease, the patient would survive in spite of the injury hitherto sustained; in fact the inflammation, after it has gone thus far, often *is* made to cease, and the patient often *does* survive. But by his surviving he admits no further chance of reparation to the injury already done, but only allows time for the heart to undergo those further changes of structure which are the natural and necessary consequences of an adhesion of its pericardium, and a softening of its muscular substance.

Now, if the inflammation cease and the patient survive, the ultimate change of structure resulting to the heart will be different, according as the original inflammation has or has not been restricted to the pericardium; and according as the original injury has consisted simply of an adherent pericardium, or an adherent pericardium, together with a softening of the muscular structure.

When the inflammation has been solely and exclusively of the pericardium, and has never proceeded beyond it; and when it has been entirely arrested, but not until it has produced a permanent and extensive adhesion, that adhesion (every other part of the organ being yet free from disease) will, in process of time, produce such a change of its entire structure, as will be incompatible with the continuance of life. The change of structure will consist in an augmentation of its strength and bulk, and a dilatation of its cavities. The increase of strength and bulk may appertain to the muscular substance of the heart generally, but it is found most frequently in the walls of the left ventricle only; and the dilatation may belong to all the cavities equally, but it is found most frequently and conspicuously in the right auricle and ventricle.

But how does such a change of structure result to the heart from a mere adhesion of its investing membrane? The explanation (as far as it is capable of being explained) was long ago afforded by Hervey himself, when he pointed out that the heart was obedient to the laws of muscular action, and that it, like other muscles, was apt to gain an increase of strength and bulk in consequence of its own more frequent and energetic contractions; and that, consequently, every stimulus which was capable of calling forth such more frequent and energetic contractions, becomes the cause of the changes of structure resulting from them. In this manner the adherent pericardium may become the cause of thickening and unnatural bulk to the muscular parietes of the heart.

But when the inflammation originating in the pericardium has reached the muscular substance, and has been made to cease in both, but not until it has produced an adhesion between the folds of the one, and a softening in the texture of the other, the change of structure ultimately produced will bear a remarkable contrast to that which has just been described.

The whole organ will be increased in size and its cavities dilated, and altogether at the expense of its muscular substance, which will be in every part thin and attenuated—so thin and attenuated, that in some cases it has lost its characteristic organization, and the heart has had the appearance of a mere fibrous bag.

This peculiar change of structure it is surely not difficult to explain: it is necessarily consequential to the condition in which the muscular substance was left by the inflammation originally imparted to it from the pericardium. Having lost its resistant and contractile power, it naturally yields to the pressure of blood constantly distending it from within.

While the heart is undergoing these changes, whether of augmentation or diminution, in the strength and bulk of its muscular substance, there are changes moreover taking place in the adherent pericardium. After the lapse of many months or years, there does not appear the same thick accumulation of lymph which is found when death takes place during the actual progress of the inflammation: all the loose pulpy portion is absorbed, and only so much remains as may be deemed enough to serve as a medium of adhesion. Yet on this account the adhesion itself is not less firm, but infinitely more so. I have seen, in such cases, the union of the heart and its investing membrane so firm, and close, and intimate, and the two so absolutely inseparable, that there has been no visible distinction between them—they have seemed to be one, not merely by intimacy of connexion, but by identity of structure.

To any one conversant with the processes of disease, it must be obvious that the heart can only arrive gradually and tardily at these conditions of disorganization: and the observation of symptoms, taken together with morbid dissection, sufficiently confirms this belief.

It will be recollected that two pathological conditions have been described, which are essentially different from each other: in the one there is an augmentation of strength and bulk in the walls of the heart, with dilatation of its cavities. This condition is answerable to the idea of what is called active dilatation. In the other there is attenuation and wasting in the walls of the heart, with dilatation of its cavities; a condition answerable to the idea of what is called passive dilatation. The first has been said to result simply from the irritation of an adherent pericardium, stimulating the organ into frequent and excessive contractions; the second from actual disease, originally communicated from the pericardium to the muscular substance of the heart.

Now, from cases which have come to my knowledge, I am not certain that these species of disorganization are not capable of being distinguished, the one from the other, by symptoms during the life of the patient.

In describing pericarditis by its symptoms, an order of cases was mentioned in which the patient survived, and not only survived, but recovered many of the general conditions of health; and further, in which he often suffered renewed attacks of inflammation and again recovered; bearing, however, to an experienced eye, from first to last, the marks of incurable disease, and inevitably perishing after the lapse of years. In these cases, I have little doubt that the original inflammation is restricted to the pericardium; and that, after its subsidence, the remaining injury consists simply in an adhesion of its folds, out of which, as a work of time and of continual irritation, the disorganization of the heart constituting active dilatation, arises.

Again, in describing pericarditis by its symptoms, another order of cases was noticed, in which the patient survived, but never recovered the aspect or general conditions of health; in which the circulation always remained disturbed, and the breathing hurried; and from first to last there was no respite from distress. In these, I cannot help believing that the inflammation beginning in the pericardium is soon imparted to the proper substance of the heart; and that, after its subsidence, the remaining injury consists in a complete softening of the muscular structure, as well as in an adhesion of the investing membrane.

It is proper to remark, that in cases which bear this clinical history, and which are characterized by the symptoms, and arrive at their fatal terminations after any of the manners specified, while we may expect to find an active or passive dilatation of the heart united with an adherent pericardium, we must not expect to find either the one or the other always of any definite degree or amount. Death is not necessarily postponed until the heart has attained an extreme point, or indeed any certain point, of disorganization in each kind respectively. In no respect do the constitutions of individuals exhibit a more striking difference than in the various capacity possessed by the vascular system of sustaining the injurious impressions which are made upon it. The common stimulants in daily use, which, operating through the medium of the heart and arteries, provoke disease and disorganization in some, and rapidly cut short existence, are borne with impunity by others, who reach old age in spite of them, or (as they would say) by their very help and sustentation. And if this difference be seen, where the cause consists in reiterated applications of injury from without, it is not less apparent where it is physically inherent, and essentially abiding, and constantly operating within the heart itself. Death, indeed, is the uniform result; but whether it take place by nervous exhaustion, or by general dropsy, or by effusion or hemorrhage into the interstitial structure of vital organs, it arrives not only after different periods of time, but at different gradations in the progress of the disease itself. Where there is a permanent adhesion of the pericardium, life will, in some cases, last long enough, and the vascular system will be sufficiently patient of the irritation at its source to allow the heart to acquire an addition of one-third, or even one-half to the natural thickness of its walls; while, in other cases, it will yield to the irritation, and death take place when the disease is less advanced; and, upon dissection, there will be a doubt whether the heart has really acquired any augmentation of its natural bulk and thickness. Again, in some cases, where there is a permanent adhesion of the pericardium, the heart will be found reduced to the appearance of a mere fibrous bag, from extreme attenuation, while, in others, its muscular substance will be softened, indeed, and pale, but its attenuation will be hardly begun.

Concerning the extreme degrees either of active or passive dilatations, therefore, as consequences of an inflamed and adherent pericardium, the heart may rather be said naturally to tend towards them than necessarily to reach them in all cases.

Something remains to be said concerning the condition of the internal lining in the cases where injury results to the general structure of the heart from inflammation and adhesion of the pericardium.

Strictly speaking, wherever the cavities of the heart are enlarged there must be some change in the condition of the internal lining; for it must follow the expansion of the muscular substance upon which it is spread and to which it adheres. But this change of condition is such as its own elastic properties enable it to undergo without injury to its structure.

But, besides this, certain morbid conditions have been found in the internal lining. These have consisted sometimes in the deposition of lymph upon it; sometimes in its general opacity, or partial thickening; and sometimes in the growth from its surface of minute excrescences resembling warts.

With respect to the deposition of lymph, I have never heard of it except in one case, which occurred to my friend, Dr. Farre. It was a case of most acute inflammation of all the organs within the chest, and involving the heart. Here the deposition of lymph upon the internal lining must be regarded as the evidence of acute inflammation, attacking it simultaneously with the pericardium; the inflammation, however, having no necessary connexion in one or the other.

With respect to the general opacity, or partial thickening of the internal lining, I have met with it in almost all cases of those disorganizations of the heart resulting from pericarditis which have been the growth of years. It is the evidence, no doubt, of chronic inflammation—of inflammation, however, not directly imparted to the internal lining from other structures, but the result, probably, of that disturbance which the *proper* vascular system of the heart has sustained in the progress of its disorganization.

With respect to the growth of excrescences resembling warts from the internal lining, they are by no means constantly found. Indeed they are much more frequently absent than present; and when they are found, they occur in no particular situation, being as often met with on one side of the heart as on the other, in the auricles as in the ventricles, and as often on any other parts of the membrane as on those which form the valves. I have never seen them sufficiently large to be thought capable of furnishing a mechanical impediment to the passage of blood. I hardly know how to regard them. Although they are found coincident with an inflamed and adherent pericardium, the connexion between the two is not obvious. I have met with them both in those who have died soon after the first attack of pericarditis, destroyed by the force of the existing inflammation, and in those who have died at remoter periods, in consequence of the ultimate injury resulting to the heart and to other organs: and, under all circumstances, their anatomical character has been the same. I suspect that they are the products of recent inflammation in the internal lining—inflammation which has arisen a short time before the patient's death.

Such are the morbid changes (as far as I am acquainted with them) which result to the general structure of the heart, from inflammation and adhesion of the pericardium, or are in some manner combined with it; and such (as far as I have been able to inform myself) is the order of their progress and the rationale of their production. There is, however, much concerning them, both in respect to their essential nature and of their clinical history, which will be better understood when we come to the investigation of diseases of the heart having a different origin. There are many phenomena in nature which become more intelligible by comparison and contrast with other things than by themselves alone; and this is especially the case with the phenomena of health and of disease.

Our next subject of investigation will be the diseases of the internal lining of the heart, and the changes which thence result to the structure of the whole organ; and among these changes, some will be found identical with those which have been already described as proceeding from disease of the pericardium. In fact, active and passive dilatation are consequences which are capable of proceeding as well from disease of the internal lining as from inflammation and adhesion of the pericardium. But these same organic changes, deriving themselves from different origins, while they have many symptoms in common, will be found to differ in several very material circumstances of their clinical history.

From the Archives Generales de Medecine.

NOTE SUR UNE ESPECE RARE DE DYSPHAGIE. Par le docteur Ollivier, (d'Angers.)

Sauvages has described in his nosology a species of dysphagy, to which he has given the appellation of *Valsalvienne*, from its having been first observed and described by Valsalva, in his treatise *De Aure Humanâ*, and by him attributed to a luxation of the cartilaginous appendices of the os hyoides. Molinelli subsequently related two examples, in which the exciting cause was not, as in the case of Valsalva, the swallowing of a hard and voluminous body, but violent pressure upon the fore part of the neck.

From the above citations, which, so far as I know, are the only instances of the disease on record, an idea may be formed of the infrequency of its occurrence; the following case therefore, is the more interesting, that it was twice observed in the same individual. Dr. Mugna has thought proper to publish it, not on account of the infrequency of the disease, but because by some authors its reality is denied; it is possible also, that this species of dysphagy is less rare than is generally supposed, and that, in some instances, it may have been confounded with the symptoms which ordinarily result from the presence of a foreign body, arrested in the œsophagus, and those which sometimes manifest themselves when a hard and voluminous substance has been swallowed.

A man, about sixty years of age, of a weak constitution, in swallowing a large piece of meat, suddenly experienced a strong sense of constriction, as if it had been arrested at the entrance of the œsophagus; in a little while, he was tormented by a continual desire of deglutition, accompanied with ineffectual efforts, without the power of swallowing his saliva, or a single drop of liquid. Dr. Mugna on being called in, found the patient already fatigued by his incessant and fruitless efforts of deglutition, and the affection becoming more and more painful. He was continually making the movements preliminary to the act of swallowing, and when he had thus exhausted himself in ineffectual endeavours, a noise was heard analogous to that produced by air escaping from the œsophagus. The anxiety of the patient increased every moment. His respiration and speech however, were perfectly free, and neither in the pharynx nor external part of the neck could any change of form or colour be discovered. A bougie was introduced into the œsophagus, into which it penetrated easily, passing the spot where the patient supposed the piece of meat to be lodged. The most attentive examination could detect no obstruction, and was productive of no relief.

The region pointed out by the patient as the seat of the foreign body, was precisely that occupied by the os hyoides, and Dr. Mugna having convinced himself that there was no extraneous substance there, supposed that the dysphagy might arise from a luxation, or, more properly speaking, a diastasis of the cartilaginous appendices of the os hyoides. In pursuance of this idea, he carried the index and middle finger of the right hand into the throat of the patient, beyond the root of the tongue, so as to act upon the os hyoides, as recommended by the authors who have treated of this affection, while at the same time, the left hand was applied upon the front of the neck and os hyoides. This simple manœuvre immediately removed the painful sensation under which the patient had been labouring, and directly afterwards, he could swallow without difficulty.

From this period for the space of two years, there was no recurrence of the affection, but at the expiration of that time, while swallowing a large mouthful of cake, the same symptoms suddenly reappeared. Profiting by his previous experience, Dr. Mugna had recourse to the same means and with similar success.*

Writers who have treated of dysphagy allude to the displacement of the os hyoides, as one of the causes by which it may be occasionally, though very rarely produced. All of them, from Morgagni down, cite, in confirmation of their opinion, the case of Valsalva, without examining how far the explanation given by this author, and which he proposes merely as an hypothesis, is well founded. The instances related by Molinelli and Dr. Mugna, analogous to that of Valsalva, remove all doubt as to the existence of an obstacle to deglutition, caused by a displacement of the solid parts situated in front of the neck, and very probably of the os hyoides upon the cartilages of the larynx; but in what does this displacement consist? This is a point which has not hitherto been examined, writers contenting themselves with repeating after Valsalva, that there was a luxation of the superior cornua of the os hyoides.

These hordeiform appendices are sometimes, it is true, of considerable length; but in what manner are they susceptible of luxation? The possibility of this occurrence it is difficult to conceive; so that whatever the displacement may be, I do not believe in the existence of a luxation, as stated by him, and am equally unable to comprehend the diastasis of Dr. Mugna.

Reflecting upon the circumstances under which this accident has occurred, it seems to me that an explanation may be found more satisfactory at least, if not more correct. In the cases hitherto related, the causes producing this dysphagy have been either a violent effort of deglutition, or a strong pressure exerted upon the front part of the neck; now can we not suppose that in these two circumstances, the os hyoides may have been carried, either laterally and downwards, in such a manner that one of the cornua of this bone may have engaged itself within the corresponding cornu of the thyroid cartilage, and remained fixed in this situation (we know that these apophyses of the thyroid cartilage are sometimes of great length;) or that the inferior cornua of the os hyoides, suddenly approximated to each other, and pressed downwards and backwards, may have become fixed in the space intervening between the two apophyses of the thyroid cartilage, an effect, the possibility of which, when the neck is violently compressed as in attempts to strangle by means of the hands, may readily be conceived. Although the hypothesis which I propose, appears to me to be founded upon the disposition of the parts, it would be useful to confirm it by experiments upon the dead body. I may add, that the very variable dimensions of the greater and lesser cornua of the os hyoides, as well as of the superior apophyses of the thyroid cartilage, and the ossification of the latter must have considerable influence in the production of this displacement. Independently of excess in length, we may easily imagine that it would be greatly favoured by any irregularity in the direction of these processes.

From the London Medical Gazette.

ON EXTIRPATION OF DISEASED OVARIA. By Dr. Hopfer, of Biberbach.

The observations in the Medicinisch-Chirurgische Zeitung, for February 1827, on extirpation of diseased ovaria, translated from the English of Lizars, induces me to communicate to the profession the history of three cases in which this operation was performed by the late lamented Dr. Chrysmar, and at which I was present.

Being called, in 1819, to Allgau, as Medical Superintendent in the upper district of Swabia, I there, in the course of my official duties and private practice, became acquainted with Dr. Chrysmar, who enjoyed great reputation in all that country, and in the adjacent parts of Austria and Bavaria, as a distinguished operator and practitioner. Previous to my acquaintance with him, he had twice performed the operation of extirpating a diseased ovarium, and in one of these instances with success. To him, therefore, belongs the merit of being the first to perform this important and dangerous operation. Having repeatedly seen him operate with great dexterity, skill, and intrepidity, I was naturally desirous of witnessing the removal of a diseased ovary; and in the course of three years the opportunity of doing so presented itself twice.

Case I.—A peasant's wife, in Leupolz, 47 years of age, came to Wangen to consult me, about her strange condition, as she termed it. At first sight I thought her pregnant: but she quickly undeceived me on this head, and gave the following history. At the age of 21 she married, and in her 23d year bore her first child; to which seven others succeeded in the course of 18 years. Until the sixth, her labours were natural, but this required to be completed with the forceps. In her 41st year she was pregnant for the last time; and although her delivery was easy, yet her recovery was not favourable, as she was confined to bed for five weeks, during which she laboured under a good deal of abdominal irritation. From this time, without any decided pain, she experienced a sensation of uneasiness and dragging in the left hypochondrium,

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* Annali Universali di Medicina.

The menses ceased in her 44th year; and her abdomen becoming tumid, this, along with some other symptoms, led her to suspect she was pregnant; but twelve months elapsing, and the feeling of weight, and the distention in the left flank increasing, the idea of pregnancy was banished from her mind.

At the commencement of her 46th year, she was, in appearance, as large as a woman at the full period of her pregnancy. The left side of the abdomen felt hard; and on compression, a solid tumour, of irregular surface, and somewhat moveable, was discovered in this situation; fluctuation was also perceived in the abdominal cavity. She became emaciated, lost her appetite and sleep, had attacks of feverishness towards night, and frequent fits of vomiting. Of the country surgeons and irregular practitioners whom she consulted, one said she was dropsical, another tympanitic, and a third that she was hysterical. Finally, she applied to a physician, who, considering the case as one of extra-uterine fœtation, and, as such, more properly the province of a surgeon, advised her to consult one. She now applied to me, and having recognised a great enlargement of the left ovarium, I proposed that Dr. Chrysmar should be consulted. Accordingly we met; and Dr. Chrysmar having examined the parts, "et per vaginam et per anum" (by which last an irregular tumour, the size of a child's head, was found descending into the pelvis,) declared the case to be one of diseased ovary, complicated with ascites.

The prognosis was very unfavourable; but being informed that an operation presented the only, though a very doubtful means of relief, she determined upon submitting to it; which, at the expressed wish of the patient, Dr. C. undertook to perform. On the 16th May, 1819, with a temperature at six degrees Reaumur, the operation was performed in my presence, and that of three surgeons now living. The external incision extended from the ensiform cartilage, passing on the left side of the umbilicus to the pubes. On puncturing the peritoneum, about three inches above the navel, about a gallon of a yellowish green serum was discharged, and received in a vessel. On carrying the incision downwards, the intestine and omentum protruded; and being carefully enveloped in a towel, wrung out of warm water, were supported by an assistant. In this way the operator was enabled to examine the tumour on every side; and to his surprise found it extensively adherent to the descending and transverse arch of the colon, to the great arch of the stomach, and to the inner surface of the peritoneum. These adhesions were separated, partly by the fingers, partly with the handle of the knife; and the peduncle itself, proceeding from the broad ligament of the uterus, divided, and tied with two ligatures. The quantity of blood lost was inconsiderable; and this proceeded from the branches of the epigastric artery, two of which were secured by ligature.

The operation, from the length of time occupied in separating the adhesions, lasted rather more than twenty minutes. The patient bore it well, with the exception of some transitory fits of syncope. In dressing the wound, the ends of the ligatures attached to the peduncle were left hanging out at the lower part of it.

Being placed in bed, the patient soon afterwards fell asleep: this lasted scarcely twenty minutes, when it was interrupted by hiccup. The pulse became frequent, with great anxiety and oppression at stomach, followed by repeated vomiting, of a bitter greenish matter, for three hours. An emulsion of nitre and opium produced no abatement of the symptoms. The hiccup increased, with occasional fits of syncope, under which she seemed to be sinking. The extremities became cold, and the pulse frequent and tremulous: small doses of musk and opium relieved the irritability of stomach, occasioned, no doubt, by the separation of the adhesions of the tumour to its greater curvature; but the patient expired 36 hours after the operation.

The diseased ovarium weighed seven pounds and a half; its surface was irregular and knotty; its section presented in some places a cartilaginous and fibrous texture, with intermediate excavations, filled with a greenish offensive sanies. In other parts the tumour had a lardaceous consistence and colour; and one of the cavities was remarkable in being filled with a grayish pultaceous mass, having more indurated, almost osseous portions of various sizes interspersed.

On examining the body, a considerable quantity of a thin puriform fluid escaped from the wound, and a larger quantity of this was found in the cavity of the pelvis. The omentum and intestines, the latter of which were adherent in the vicinity of the wound, were discoloured and covered with a layer of coagulable lymph. The peritoneum, where the ovary had been separated, had a sphacelated appearance. On the great curvature of the stomach, and descending part of the colon, there were a number of reddish and gangrenous spots, over which was exuded a layer of coagulable lymph. The peduncle of the extirpated ovary, and the broad ligament of the uterus itself, were healthy. The right ovary was of its natural size.

Case II.—A. B. 38 years of age, was a healthy young woman, and married at the age of 25, and in the course of seven years bore five children. After her confinement with the last but one of these, she was attacked with inflammatory fever, suppression of the lochiæ, and symptoms of metritis. Considerable anxiety was felt for her life; but by proper remedial measures she recovered, (apparently completely,) in the course of six weeks. From this time, however, she was seldom entirely free from a sense of dull pain in the hypochondrium, but which she paid little attention to, more especially as the recurrence of the menstrual discharge was attended with relief; and as, on her again becoming pregnant, it almost entirely disappeared. During her pregnancy, and for a year and a half afterwards, she enjoyed good health; a dull pain in the left side being only felt at the accession of the menstrual periods. About this time, however, she observed that the left side was somewhat larger than the other, and on compressing it firmly a small tumour was felt in the left iliac region. Somewhat uneasy at this, she consulted a physician, who, without entering into any explanation of the nature of her complaint, recommended a visit to some neighbouring sulphureous baths. From a three weeks' employment of these she appeared to derive benefit; the uneasiness in the side ceased; the tumefaction diminished; and the swelling could scarcely be recognised on close examination. She now returned home, but the improvement was of short duration; the menstrual discharge became irregular, not appearing but at intervals of eight or ten weeks; the pains and tumefaction of the side returned, the latter gradually occupying the whole of the abdomen. She lost her appetite and strength; she had frequent attacks of shivering, succeeded by heat; and the general tumefaction of the abdomen and tumour in the left side continued to increase.

In this way two years elapsed without any other means being resorted to but aperients to relieve the bowels. At the end of this time the distention of the belly was very great, with evident fluctuation; the breathing was oppressed, and there was general œdema of the inferior extremities. Professional assistance was resorted to; and under antiphlogistic treatment, combined with the use of mercury, the secretion of urine became augmented; the action of the bowels more regular; the abdomen softer; the swelling in the left side less tense and painful; and she improved likewise in health and spirits. Satisfied with this benefit, she now abandoned the use of medicine, trusting the completion of the cure to nature; but in a short time all the symptoms became aggravated, and the tumour in the left side, with its irregularities, previously only recognizable to the touch, now became visible to the eye.

She now applied to Dr. Chrysmar, who, upon a careful examination of the case, informed her that medicine would not avail; adding, that the only possible remedy was by an operation, which he had already executed three times, and once with success; without, however, holding out either to the patient or her friends a promise of success, but rather pointing out its attendant dangers. Undetermined, she returned home, but in a few days wrote to say that she had made up her mind to have the operation performed, and would shortly come to Isny to have it done. Accordingly, in June 1820, it was undertaken, in the presence of Dr. Bannwarth and three neighbouring surgeons. The temperature was between fifteen and eighteen degrees Reaumur.

The patient being placed on a low but firm table, covered with a mattress, and her head properly supported, Dr. Chrysmar made an incision in the course of the linea alba, commencing a little below the ensiform cartilage, and terminating at the pubes. This divided the skin and cellular substance down to the muscles, and another between the recti exposed the peritoneum, which was opened with great caution a little above the navel. The fore-finger of the left hand being introduced into this, the wound was enlarged upwards and downwards, to the extent of that in the integuments. Whilst this was effecting, the intestines protruded, and attempts were at first made to restrain them by the hands of an assistant dipped in oil, or at least until the enlargement of the aperture of the peritoneum was completed, when they protruded so completely that it became necessary to envelop them in a wet warm napkin. Their motions, and the violent pulsations of the abdominal aorta, filled the assisting surgeons with fear and pity; but the undaunted operator proceeded to examine the tumour, which exceeded in size that of a child's head, and was only adherent posteriorly to the pelvis. Being held up by an assistant, Dr. C. carefully separated its adhesions to the peritoneum and entrance of the pelvis, and a double ligature being then thrown round its attachment to the broad ligament, it was completely detached and removed. There was no adhesion to the uterus, which, as well as the right ovary, appeared healthy.

The intestines, which, during this period (about five or six minutes,) had been kept carefully covered up, were now returned into the abdomen; the wound carefully united by ligatures—those upon the root of the swelling hanging out at the lower part of it. The operation lasted about a quarter of an hour, and was borne with great firmness by the patient, who was immediately afterwards placed in bed, covered with a light covering, and two table-spoonsful of an emulsion with nitre given every two hours. As a slight shivering, with hiccup, came on some hours afterwards, five or six drops of laudanum were given at intervals. The diet consisted of barley water, and *eau sucrée* for drink. She had a tolerably good night, and had three hours' sleep towards morning. The pulse was soft, (at midnight it was 100,) the skin moist, and the urine not high coloured. In this way three or four days passed over, and with the exception of a slight degree of fever, without any great disturbance of the system. As the hiccup abated, the laudanum was omitted, evacuations from the bowels were procured by means of emollient clysters, and the wound was not dressed until the sixth day. Healthy suppuration took place; the ligatures separated in due time; granulations formed, and the wound healed so quickly, that the patient went home quite well at the end of six weeks.

The tumour weighed eight pounds, had a knotted appearance, and bluish colour, and its section presented a fibrous texture, with cavities containing some matter like honey, others a greenish sour-smelling fluid.

It is to be remarked that this patient subsequently became again pregnant.

Case III.—The subject of this was a single woman, of Scheidech, in Bavaria, 38 years of age, of feeble constitution, small stature, with a hump back and deformed pelvis, which were attributed to rickets in childhood. At the period of puberty she laboured under chlorosis for a year and a half, but at the age of 18 the menses appeared, and continued regular for more than two years. In her twenty-first year she had a nervous fever, and from this time her health became impaired. The menstrual discharge became irregular, the functions of the liver disordered, accompanied with some fulness in the region of that organ, and pain on pressure. The remedial means which were resorted to procured some relief; but in the course of time, in addition, the abdomen generally became swollen, with œdema of the lower extremities: various diuretics were resorted to, but with partial benefit. In her thirty-second year a large irregular tumour, the size of a child's head, was discovered in the left iliac region, which yielded to the pressure of the hand, seemed to float in the surrounding fluid (the patient labouring under ascites.) She was now tapped, and two gallons of fluid, of gelatinous consistence and yellowish colour, evacuated with partial and temporary relief.

In 1820, the patient applied to me. On examination of the distended abdomen, I readily distinguished an enlargement of the right lobe of the liver, with fluid collected in the cavity of the peritoneum. The uneven hard tumour in the left side, which was moveable above and behind, but not at its lower part, and about the size of the head of a child of four or five years old, appeared to me a diseased condition of the left ovary, and I therefore advised her to go to Isny, and consult with Dr. Chrysmar.

In a fortnight afterwards, Dr. C. wrote me that he had carefully examined this patient, and ascertained that the tumour was a diseased ovary. The operation, he considered, as affording the only chance of cure, but in a subject like this, diseased and deformed from infancy, the issue must be most uncertain; and he added, that if the patient made up her mind to have it done, he would only perform it with the sanction of the Bavarian district physician, Dr. W. of Weiler, and my assistance. We counselled the patient to deliberate carefully, to consult several practitioners on the subject, and if she resolved upon submitting to it, to fix the time herself for its performance.

In three weeks I received a letter from the clergyman of the place, informing me that the patient had determined upon having the operation performed, naming also a day in August for it. It was accordingly executed by Dr. Chrysmar, in the presence of Dr. W., myself, and three assistants, the temperature of the apartment being 18 Reaumur.

The external incisions were made in the manner already described. On cutting through the peritoneum about three quarts of fluid, of a greenish yellow colour and nauseous smell, were evacuated. An assistant kept the protruding intestines aside with a napkin dipped in warm water, in order to afford room to the operator to get at the diseased ovary. This had a bluish appearance, and was covered with varicose vessels. Its only adhesions were towards the projection of the sacrum, and these were divided with the scalpel. The division of the four-inch thick pedicle was affected after the application of a double ligature to it. The wound being carefully closed and dressed, the patient, who was greatly exhausted, was put to bed. Soon afterwards she fell into a state of syncope, which lasted for eight minutes, and this continued to recur at intervals for thirty-six hours, when death, preceded by convulsions, closed the scene.

On examination of the body the larger and small intestines, with the omentum, were found greatly inflamed, and the peritoneum, towards the promontory of the sacrum, was covered with a coating of lymph. A quantity of offensive fluid was found in the pelvis. On the lower part of the colon were several gangrenous spots. The uterus was of the natural size. The right ovary was twice as large as natural. The mesenteric glands were enlarged and indurated. The right lobe of the liver was crowded with tubercles. The extirpated tumour weighed six pounds and a half, and on being divided, presented a lardaceous texture, with numerous fibrous cysts filled with a brownish stuff, like size. Probably the long duration of the disease, with the morbid state of the liver, and the debilitated condition of the patient, contributed to the rapidly unfavourable issue of the operation in this case, which in other respects was not attended with any extraordinary occurrences.—*Graefe and Walther's Journal.*

From the London Medical and Physical Journal.

COLICA PICTONUM.

On the Treatment of Colica Pictonum by Alum, under the direction of M. Kapeler, Physician in chief of l'Hôpital Saint Antoine. By M. D. Montanceix.

For the last thirteen years, M. Kapeler has treated colica pictonum with alum, with a very favourable result. From fifteen to twenty persons affected with this disease are annually received into the hospital. The practice adopted at La Charité, which consists of drastic purgatives, sudorifics, and narcotics combined, is that which is usually had recourse to in France. As a proof of the efficacy of M. K.'s treatment, the following interesting cases are related.

Case I.—L. Bouligny, of a good constitution, aged nineteen years, a house painter by trade, was admitted on the 20th of February. The symptoms were as follow: For the last eight days he had been obstinately constipated, notwithstanding several clysters had been given. Great pain in the abdomen, which was rather relieved by pressure. Gnawing sensation of the stomach. Tongue dry and white; mouth bitter; urin scanty. Pulse forty in a minute; no headach. He has had no sleep for the last four days.

On the day of his admission, he took a mucilaginous mixture, with a drachm of the sulphate of alum, a table-spoonful each hour. An emollient clyster was administered. Barley and linseed water for common drink; spare diet.

21st.—Pulse quicker; tongue not so dry; less bitterness of the mouth; pains diminished; two hours' sleep. He has had two motions in the night, and has made water three times.

The same remedies continued.

22d.—Continues better.

In the evening, all the abdominal symptoms had ceased, and the pulse was nearly natural.

To take half a drachm of the sulphate of alum in the mixture as before. Broth diet.

25th.—Perfectly free from all symptoms of the disease.

26th.—Complains of pain in the head, with symptoms of general excitement. He was bled, and a blister was applied to the neck; and soon after he left the hospital.

Case II.—C. Baudin, an earthenware potter, of a weak constitution and lymphatic temperament, aged thirty-one years, was attacked, on the 26th February, with very acute pains in the belly, which obliged him to roll upon the ground. He uttered the most piercing cries, and was thrown into various positions. His suffering was somewhat relieved by applying a tight bandage round the belly. He was sleepless, complained of headach, and had been constipated for two days. He had a creeping sensation over all his limbs.

27th.—He was admitted in the following state: Extreme depression, trembling, and convulsive movements of the upper limbs; cramps in the lower limbs. The eyes were particularly brilliant. Acute pains in the abdomen, which were relieved by pressure, although the patient was averse to it. Retraction of the belly. Tongue dry, and of a blackish colour. Urine of a small quantity, and red; bowels constipated. Pulse small, and thirty-five in a minute. He was delirious two hours after his admission, and the strait-waistcoat was required.

Ordered to have barley and linseed water for common drink. Mucilaginous mixture, with a drachm of the sulphate of alum. An emollient clyster was given. Strict diet.

28th.—In the same state. Delirium has been very violent during the night.

Sulphate of alum two drachms. An oily clyster every half hour.

In the afternoon, the patient had recovered his senses, and complained only of a slight pain in the epigastric region and in the head. His bowels had been freely open, and he had made a large quantity of water.

Sulphate of alum one drachm. Same diet.

He now became convalescent, and in eighteen days was discharged well.

Case III.—J. Maiseau, of a strong constitution and bilious temperament, forty years old, a cooper by trade, was admitted on the 27th February, in a state resembling intoxication. He was violently delirious; his look was wild, and he was apprehensive that some injury would be inflicted upon him. He was furious when his belly was pressed, but still the pain which he complained of appeared to be relieved. Pulse very slow.

The case was at first doubtful, but it was soon ascertained that he had several times been attacked with metallic colic, and had once been in La Charité for three months with this disease. He was ordered a drachm of the sulphate of alum and a purgative clyster. In three hours he was much calmer, and he had a tranquil night. No evacuation from the bowels.

28th.—Patient calmer, but still he had not regained his mental faculties. Pulse very slow; abdomen painful; continual shaking of the head; tongue dry and rough.

To take two drachms of the sulphate of alum.* Purgative clyster every hour. Linseed tea for drink.

In the evening, the patient had recovered his senses, but had no recollection of what had passed. Still pains in the belly. He is now amaurotic, and has entirely lost his sight. Trembling in all the limbs. Bowels have not been opened.

Sulphate of alum two drachms. Two purgative enemas.

29th.—Pain has ceased; no trembling; return of appetite. Continues amaurotic. Has had four motions in the night.

Repeat the same remedies.

March 1st.—No alteration.

2d.—Begins to distinguish objects.

Medicines continued. Allowed soup.

15—Sight entirely recovered.

From the 3d to the 12th, he has taken each day a drachm of the sulphate of alum. Several boils have appeared in various parts. He was discharged cured, after having been fifty-three days in the hospital.

Case IV.—J. Legrand, of an ordinary constitution and bilious temperament, forty-two years old, a lapidary by trade, has been treated fourteen times in the space of twenty years for colica pictonum. The first attack occurred when he was about twenty-one, six months after he commenced his business. He had always been admitted into La Charité. When he was first seen, on the 29th February, he said that, eleven days before, he was suddenly seized with general uneasiness and headach, which lasted four days. On the 25th, he had cramps in the lower extremities, and pains in the belly, which were at intervals very severe. He does not complain on pressure. Loss of appetite: nausea, vomiting. Convulsive movements of the arms. Tongue white and moist; bitter taste in the mouth; severe pain in the belly. Has been constipated for three days. Pulse forty.

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* The precise mode in which this medicine was taken is not mentioned. We presume it was given in a mixture in divided doses, as is prescribed in the first case.—Editors.

Ordered, linseed and barley water for common drink. Mixture with gum and a drachm of the sulphate of alum. Purgative clyster. Strict diet.

In the evening, symptoms increased. Movements of the arms frequent; powerful cramps in the legs; excruciating pain in the belly; bowels continue constipated; tenesmus.

To take sulphate of alum two drachms; two purgative clysters. Six drops of croton oil to be rubbed around the navel.

March 1st.—In the same state. Bowels not open.

Sulphate of alum two drachms. Two oily injections.

In the evening, still the same.

To take two drachms more of the alum.

2d.—No alteration. M. Kapeler, still confiding in the medicine, which had never disappointed him, prescribed again two drachms of the sulphate of alum, and three oily clysters.

3d.—Much relieved. Has had four motions in the night, and made water freely. Pulse nearly natural; he says he is well.

Ordered one drachm of the sulphate of alum, and broth.

5th.—Free from complaint.

Case V.—L. Felix, of a bilious temperament and weak constitution, aged eighteen, a house painter by trade, was admitted the 19th April. He had been attacked with colica pictonum five days ago. The disease was well defined: acute pains in the abdomen, which were neither increased nor diminished on pressure; bowels constipated; tenesmus; retraction and hardness of the belly; nausea and vomiting of greenish and filmy matter; tightness in the præcordia; features of the face altered; tongue dry and foul; pulse slow; headach; paroxysms of dyspnœa. All these symptoms yielded to a drachm of the sulphate of alum, and to a purgative enema, as to a charm. He had eight stools in the night.

The same treatment was continued for three days, and he was discharged perfectly cured.

Case VI.—P. Racine, of a strong constitution, and of a bilious and sanguineous temperament, aged forty-five, a house painter, had suffered from the disease seven times.

Symptoms: May 1st.—Slight pains in the hypogastrium; loss of appetite; tongue dry and white; breath fetid; headach; numbness of the arms, principally the right; loss of recollection of nouns and numbers; pulse slow; constipated bowels; urine acrid, and in a small quantity. These symptoms had existed for six days.

Ordered one drachm of the sulphate of alum in a mucilaginous mixture, and a purgative enema. Linseed tea for beverage.

June 1st.—Has had five or six motions during the night, and declares that he is cured. The pains, numbness, and headach are removed. He cannot count up to five.

Continue medicine. Broth diet.

2d.—Continues better.

3d.—Memory perfect. Discharged cured on the 7th.

Case VII.—P. Mahille, of a weak constitution and bilious temperament, twenty-three years of age, a house painter, had been twice attacked with colica pictonum. He had now been dicharged one fortnight from La Charité, with every appearance of being permanently cured. He had avoided, since, the exciting causes of the disease; and still, eight days afterwards, it returned with more severity than ever. He was admitted into the Hôpital St. Antoine, July 5th.

Symptoms: Extreme depression of mind and body; dilated pupils; abdomen retracted, and *very painful* on pressure; continual and violent colic; no stool for two days; frequent nausea, no vomiting; wandering pains and creeping sensation in the arms; spasms of the lower extremities; headach; tongue dry, and rather black; bitter taste in the mouth; pulse thirty-two; skin cold and moist.

Ordered a mixture with gum, one drachm of the sulphate of alum. Purgative enema.

6th.—No motion. Pulse thirty; vomiting of greenish matter.

To take two drachms of the sulphate of alum; two oily clysters.

7th.—No alteration. No motion.

To take three drachms of the sulphate of alum, and to have an oily injection every half hour.

8th.—Colic diminished; pulse thirty-five. Still no evacuation from the bowels.

Medicines continued. Three drachms of alum repeated in the evening.

9th.—Had a copious motion in the night, and was immediately relieved. Pulse forty; tongue moist and white.

Remedies as before.

10th.—Has had two motions this morning.

Continued to take three drachms of the sulphate of alum till the 13th. On the 16th, discharged well.

Case VIII.—J. Roblin, of a strong constitution and nervous temperament, forty-six years of age, by trade a brazier, was attacked, the 20th July, with violent colic, which obliged him to roll upon the ground. The belly was surrounded by a towel, very tightly bound. He had drank milk freely, and used several clysters, to no purpose. The disease increased in severity, and on the 23d the following symptoms were present: Face pale and stupid; headach; loss of appetite; tongue white and moist; bitter taste in the mouth; dragging sensation in the stomach; pain around the navel, relieved by pressure; retraction of the belly; spasms of the arms; urine scanty, bowels constipated; pulse thirty-nine; skin cool and dry.

Ordered barley water for common drink; mixture with gum; sulphate of alum one drachm; purgative enema.

24th.—Better. Has had three motions in the night; urine copious in quantity. Pulse forty-six; belly still painful; numbness in the legs; spasms of the arms have ceased.

Remedies continued.

25th.—No pain in the belly; numbness of legs diminished; pulse fifty-five. Two motions.—To continue medicines.

26th.—Convalescent. Discharged July 2d, cured.

Case IX.—N. Dereux, of ordinary constitution and bilious temperament, fifty-one years old, a brass founder, felt, on the 18th July, slight colic, and an itching and creeping in the limbs; in the evening, trembling of the arms. He continued to work till the 24th; but, as the disease now became more severe, he was admitted into the hospital.

Symptoms: Face pale and anxious; tongue covered with a yellow mucus; bitter taste in the mouth; no appetite; excessive pain in the belly, particularly in the hypochondria; no increase of pain on pressure; heartburn, nausea, and vomiting of a greenish matter; urine scanty, bowels constipated; great debility; spasms of the limbs. Has passed a sleepless night. Pulse very slow.

Ordered, linseed tea and barley water for drink. Mixture with gum; one drachm of sulphate of alum. Purgative clyster.

27th.—Greatly improved. Pulse nearly natural; all the symptoms diminished in severity. Has had three motions, and an abundant discharge of urine. He afterwards slept very comfortably.

28th.—No complaint. Appetite good.

To take half a drachm of alum.

Discharged, the tenth day, well.

Case X.—P. Fournier, forty-five years of age, house painter, of a strong constitution and sanguine temperament, has suffered eight attacks of metallic colic. He has always been treated at La Charité, and has generally left that hospital with paralysis of the left wrist. For the last attack, he was six weeks in the Hôtel Dieu, after having been two months in La Charité. Since the first occurrence of the disease, he has almost always felt slight colicky pains; his bowels have been alternately constipated and relaxed; in short, his health has never been completely established.

September 22d.—Fifteen days ago, after his work, he was attacked with rather violent colic and purging; weakness in the limbs; loss of appetite, nausea, no vomiting, has continued, with varying symptoms, until the present time. The symptoms that now exist are obstinate constipation, tenesmus, and weight at the fundament; giddiness; scanty urine, of a red colour, and with very copious sediment; violent colic, which is neither increased nor relieved by pressure; extreme weakness; ardent thirst; tongue white and moist, mouth foul. Has had no sleep for five nights. Cramps and spasms in the limbs, principally on the left side. The left forearm was yesterday so senseless that, when it was placed near a powerful fire, he did not feel it. Pulse thirty; skin cold and dry.

Ordered, linseed tea for drink. Mixture with gum; one drachm of sulphate of alum. An emollient clyster.

23d.—Much better. Pulse 120: all the symptoms milder; has had some sleep. Bowels opened eight times one hour after the medicine; copious discharge of urine.

To continue the remedies.

24th.—Complains only of slight weakness in the left side, which was yesterday quite benumbed. Appetite good. Has had no sleep in the night; bowels been open twice; frequent inclination to make water.

Medicines to be repeated. Broth diet.

25th.—Improved in every respect. He has walked in the ward, and amused himself with reading. Still complains of want of sleep.

To take half a drachm of alum. Broth diet, and a little soup.

26th.—Free from pain. Cramp of the left arm, which is no longer benumbed. He cannot walk up stairs. Has had one motion; no sleep.

Remedies as before. A mild anodyne pill. A little meat allowed.

27th.—Better in every respect. Still want of sleep

28th.—Well. Has slept all night. Has regained his strength.

After a detail of these cases, it is presumed, by M. Montanceix, that the efficacy of the practice of the Hôpital St. Antoine must be established. Thirteen years' experience have proved the value of the proposed remedy, which is both innocent and effectual.

It is to be observed, that the subject of the third case had only left La Charité seventeen days, when the disease returned with the most alarming symptoms, which were quickly removed by a few drachms of the sulphate of alum. In the seventh case also a relapse occurred, without fresh exposure to the original cause of the malady, after the patient had been discharged eight days from La Charité. Case the tenth requires but little comment; it clearly proves the efficacy of the treatment proposed.

Neither inflammation of the stomach or bowels has ever occurred. In most cases, three or four drachms of the alum were sufficient to render the patient convalescent, and in no one instance has a relapse happened. M. Montanceix has seen the patients frequently after their discharge, and is therefore able to speak confidently upon this point.

It will be perceived that the requisite dose of the remedy is not always in proportion to the severity of the disease. Cases, which commenced with very alarming symptoms, yielded to two or three drachms; others, which appeared mild in their character, resisted even eight or ten drachms. The physician must therefore act according to circumstances, but the first dose should not be more than one drachm.

The sulphate of alum is asserted to be the best remedy we possess against the metallic colic. We think, observes M. Montanceix, that it will entirely supersede every other medicine, if its effects are impartially compared with other modes of cure.

Alum has been before much extolled as a remedy in colica pictonum, although it has been of late but seldom used in this country. If it should be found, as is stated in the above interesting paper, that a relapse never occurs after its employment, it should certainly not be neglected. Dr. Grashuys considered alum as a specific in this disease.* Dr. Percival gave it in doses of fifteen grains every four or six hours, and he declares with unvarying advantage.† The same plan of treatment has also been highly recommended by the German physicians.—EDITORS.

From the London Medical Gazette.

CASE OF PNEUMO-THORAX, *with an account of an Operation performed for its relief, the Effects of the Operation, and the Appearances on Dissection.* By DR. JAMES JOHNSON.

Mr. Cornish, surgeon, residing in Milner-Place, near the Cobourg Theatre, and aged about 27 or 28 years, became affected with dyspnœa and symptoms of thoracic inflammation about the latter end of November or beginning of December last, which he neglected for many days, and continued to pursue his avocations in the three branches of the profession. About the 15th or 16th of the same month he was accidentally seen by Mr. Cooke (an intelligent practitioner,) of Bridge-street, Lambeth, who strenuously recommended sanguineous depletion, confinement to the house, and the other items of the antiphlogistic treatment. It was with difficulty he could be persuaded to take to his room, but he was too ill to go on longer with his practice.

On the 19th or 20th of December Dr. Johnson was requested to see Mr. Cornish, and found him in the following condition:—The patient was of the scrofulous character; he was lying on a sofa on his right side, breathing with considerable difficulty, and frequently coughing; the expectoration was scanty, and extremely tenacious, but without any purulency; the pulse was 130, sharp, and wiry; skin not very hot nor dry; tongue moist, thirst moderate; right cheek flushed; urine high-coloured and scanty. He complained of great difficulty of breathing, had pain in the centre of the chest, and could only lie on the right side. On uncovering the thorax, the muscles of respiration were seen in violent action, but the breathing was principally carried on by the diaphragm. There was no perceptible difference in the size of the two sides of the chest, but a very remarkable difference in the sound emitted on percussion: the *left* side sounded louder than natural, the right sounded considerably duller than natural. On applying the ear to the *left* side, which sounded so well, little or no respiration could be heard; on listening to the *right* side, which sounded so dull, the respiration was very loud, and accompanied with much wheezing. The heart was felt beating rather to the *right* of the middle of the sternum, and no trace of it could be felt in the *left* side.

These phenomena appeared to Dr. Johnson to be very unfavourable; but as inflammatory action was still unequivocal in the case, Dr. J. advised Mr. Cooke (who kindly and zealously attended his afflicted neighbour till the last) to take away more blood, both generally and locally. Digitalis, colchicum, and antimony, were also given, in powerful doses, with the view of making an impression on the circulation.

December 21.—The urgency of the dyspnœa was a little, and but a little, relieved by the depletion; the blood was remarkably buffed and cupped. On examining the chest this day, Dr. Johnson and Mr. Cooke found that the left side was even more sonorous than before, and the respiration there still more indistinct; the pulsation of the heart was rather farther to the right; the right side very dull on percussion, and the respiration very noisy and confused. But a most important feature of the case now attracted attention—namely, the METALLIC TINKLING (*tintement metallique,*) which was distinctly audible in the left side of the thorax, not only when the patient coughed or spoke, but even during every inspiration and expiration. Dr. Johnson had now no doubt of the existence of PNEUMO-THORAX, as every person who put the ear to the chest heard the tinkling as plainly as himself. Upon accurate examination, the left side was found to be sonorous back almost to the spine, which led to the conclusion that the quantity of serous, purulent, or sero-purulent effusion, was very small in quantity when compared with the aeriform extravasation. What was now to be done? There were still symptoms of thoracic inflammation present; and to quell these, and promote a free expectoration, every mean that could be devised was put in force. The next five or six days were consumed in the furtherance of these indications, but with no effect in mitigating the difficulty of breathing, which, indeed, gradually increased, the pulse seldom coming under 130 in the minute, with great and distressing jactitation.

In the course of the above period several medical gentlemen saw the patient, and Dr. Walshman was added in daily consultation with Dr. Johnson and Mr. Cooke.

On Monday night, the 29th December, the patient nearly expired from suffocation; and next morning (Tuesday, the 30th) Dr. Johnson explained to the patient the nature of the case—namely, that there was an aperture in the left lung, through which air was extravasated into the left pleural cavity, which cavity also contained some fluid, the precise nature of which could not be ascertained. It was stated to Mr. Cornish that the increasing collection of air was pressing severely on the right lung, that it had already pushed the heart into the right side of the chest, and that he saw no prospect of relief but from an operation.

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* Tentam. de Colica Pictonum, et App.

† Obs. and Exp. on the Poison of Lead. 1767.

Dr. Blicke, of Walthamstow, examined the patient on Tuesday morning with Dr. Johnson, and was so convinced of the existence of pneumo-thorax as the cause of the dreadful dyspnœa, that he volunteered to perform the operation. Things, however, were not sufficiently ripe for such a step, and Dr. Johnson requested the patient to name a surgeon of eminence to join in the consultation. He named Mr. Lawrence, and Dr. Johnson waited on Mr. L. to request his opinion on the case. Mr. Lawrence, Dr. Walshman, Mr. Cooke, Mr. J. H. Johnson, and some other medical men, met at three o'clock on that day. Mr. Lawrence accurately examined the patient: he was lying on his right side, as usual, breathing most laboriously; his countenance sunk; the pulse between 130 and 140, weak and somewhat irregular; the skin was cool and somewhat moist; he had had no sleep for many nights. On laying bare the chest, the action of all the respiratory muscles was painful to behold, and it was evident that but a very small portion of air could be taken in at each inspiration: there was no perceptible difference in the size or shape of the two sides; the *left* sounded hollow throughout almost its whole extent, when Mr. Lawrence struck it; the right side emitted an extremely dull sound. The apex of the heart was now beating rather to the right of the right nipple. When Mr. Lawrence applied his ear to the left side of the thorax, he distinctly heard the metallic tinkling,* as did every one of the medical gentlemen then present. The respiration was loud and rattling in the right lung, and the expectoration muco-purulent, with streaks of blood and many black particles.

On retiring to consult, it was the opinion, not only of Mr. Lawrence, but of all the other attendants, that Mr. Cornish was so near death as to render any operation hazardous, if not unavailing; indeed, it was believed that the patient would most likely expire during such an operation as was contemplated. Mr. Lawrence, however, candidly avowed that he was satisfied of the existence of PNEUMO-THORAX, both from the confidence of Dr. Johnson's diagnosis, and from the phenomena which he had himself observed during the examination by percussion and auscultation. He also stated it as his opinion that, under more favourable circumstances, and with the same kind of phenomena present, the operation of paracentesis thoracis would be warrantable, as the only probable mean of affording relief, whether temporary or permanent, from the difficulty of breathing resulting from the pressure of air and other fluid extravasated in the cavity of the pleura. An anodyne was prescribed. The gentlemen separated without any resolution to meet again, as Mr. Cornish appeared to be dying; and the unfortunate patient himself expressed the most poignant disappointment that no operation was undertaken for his relief.

On that day, Dr. Johnson accidentally met with Dr. Ballingall, of Edinburgh, Dr. Pecchioli of Florence, and Mr. Guthrie. To these gentlemen he related the melancholy case of his medical patient; and they having expressed a wish to see him, if yet alive, Dr. Johnson solicited them to visit the patient with him. They repaired to Mr. Cornish's house at 10 o'clock at night, and found the patient nearly in the same state of distress as he was in at 3 o'clock, when Mr. Lawrence and Dr. Johnson left him. The gentlemen above mentioned recognised the auscultic phenomena which have been already detailed, and, in consequence of a most urgent solicitation, not only from the patient, but from his sisters and several relations, Mr. Guthrie agreed, in deliberate consultation with Dr. Ballingall, Mr. Picchioli, Mr. Cooke, and Dr. Johnson, to perform the operation of paracentesis thoracis, as the only measure that offered even temporary relief from the dreadful state of suffocation to which the unfortunate patient was reduced. The danger of the case was not concealed from Mr. Cornish himself, nor from any of his friends; nor was any sanguine expectation held out of recovery, but only of relief. It was stated that the operation was neither painful nor dangerous, and that it afforded the only probable chance of life that remained. The patient and friends ardently urged the operation.

An incision was made in the anterior lateral part of the left side of the chest, between the sixth and seventh ribs, and the pleura cautiously opened with the scalpel. At that instant a rush of air issued forth, with a loud hissing noise, and strong enough to extinguish several candles, had they been near the orifice. The relief was almost instantaneous. The patient turned on his back, and breathed with comparative freedom, expressing the highest sense of gratitude for the operation. He was turned round on the left side, but no fluid came from the wound. A piece of linen was placed over the orifice and the medical gentlemen retired. The relief continued for some hours, and then the difficulty of breathing returned to a certain extent.

Wednesday, 31st.—Mr. Guthrie, Mr. Cooke, Dr. Johnson, and several others, visited the patient at half-past twelve o'clock, and found him labouring under a considerable degree of dyspnœa, though not near so much as before the operation. It was found, on examination, that the wound was closed. The left side sounded nearly as sonorous as ever, and the TINTEMENT METALLIQUE was perfectly audible. A director was introduced in the wound, and a rush of air instantly escaped, with immediate relief, as in the first operation. A probe-pointed bistoury was passed in, and the opening in the pleura extended to the size of half an inch. The pulse had fallen to 120, the countenance was good, skin moist, expectoration more copious, and muco-purulent. On examination of the left side immediately after the escape of the air, no "TINTEMENT METALLIQUE" could be heard by any of the medical gentlemen. The patient took nourishment this day, and was seen by several medical practitioners. In the evening, when Dr. Johnson visited him, the patient was not so well, and a probe was again introduced, when air escaped with some noise. Twenty drops of laudanum were given in a saline draught, and the patient was left.

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* Some of the medical gentlemen present, and particularly Mr. J. H. Johnson, compared the METALLIC TINKLING to the sounds emitted by a musical snuff box; and this, in reality, is a more familiar, as well as a more exact similitude, than that which Laennec has employed.

Thursday, 1st Jan. 1829.—On visiting Mr. Cornish this day, the medical attendants were agreeably surprised to find that he had had several hours of tranquil sleep, and that for the first time during some weeks; that his breathing had been easy, the expectoration more copious, and inclining to purulency; the pulse reduced in frequency, and more expanded; the appetite good. He got out of bed this day without assistance, went to the commode, and had a natural motion. Mr. Lawrence saw the patient, and pronounced him greatly relieved. On examining the wound, a canula was pushed in, and a taper was held near it. During inspiration the canula was closed with the finger, so that no air could enter the chest; and during expiration, the finger was removed from the canula, when a rush of air always escaped. This was continued until no doubt could remain as to the fact that part of the air drawn in by the mouth was thrown out of the wound at each expiration. This phenomenon, and especially the large quantity of air thus thrown out, proved that a considerable aperture of communication existed between the bronchia and the cavity of the pleura—a circumstance which greatly lessened the hopes of recovery. It was found that since the operation the apex of the heart beat about an inch and a half, or two inches nearer the central line of the thorax than before. The pulsation was still, however, to the right of the line. The patient continued comfortable through the day; but Mr. Cooke was called up in the night, and found him greatly oppressed. The canula was re-introduced, and some relief followed, the wound being covered with a piece of gauze.

Friday, Jan. 2, 1829.—It was but too evident this morning that the unfortunate patient was sinking. He had a strong convulsion early to-day, and about one o'clock he expired.

Post Mortem Examination.—Mr. Cornish being of the Hebrew religion, great difficulties lay in the way of an examination post mortem; but the friends and relatives of the deceased evinced much liberality, and leave was ultimately attained for dissection, though such a process was almost unprecedented among the Hebrew brethren. Previously to the examination, which was conducted by Dr. Hodgkin, and witnessed by a great number of medical men, Mr. C——, a surgeon of the Hebrew religion, who had frequently visited the deceased during his illness, demanded of Dr. Johnson what were the morbid appearances which he expected to find? Although this was a question which it would not be always very charitable to ask before a dissection, yet Dr. Johnson did not decline the answer, which was made in the presence not only of the above medical gentlemen, but of a number of the patient's friends.—"*The disease was pronounced to be pneumo-thorax; and the morbid appearances would be a collection of air and some other fluid in the left side of the chest; collapse of the corresponding lung; aperture in the lung capable of giving free vent to air from the lung to the cavity of the pleura; displacement of the heart; probably tubercles in the right lung.*"

Dr. Hodgkin then opened the body. On raising the sternum the heart was found rather to the right of the median line of the chest. The left lung was collapsed to one-fifth of its natural dimensions. The vacant space was filled with air, and about fourteen ounces of turbid serous fluid. The pleura costalis and pulmonalis presented marks of inflammation of a few weeks' standing—viz. some thin false membranes, were easily separated by scraping with the scalpel. There were no marks of any more recent pleuritis, even in the vicinity of the wound, there being only a slight ecchymosis between the pleura and subjacent cellular tissue, for the space of a few lines around the incision. A tube was inserted into the trachea, and air blown into the lungs. The left lung expanded to a certain extent, and air was heard to bubble out. The lung was then carefully removed, and an aperture was immediately recognised at the division or cleft betweeen the two lobes. The tube was inserted into the bronchus leading to the left lung, and Dr. Johnson blew in air. It rushed forth at the aperture, and extinguished a taper that was held near it. The aperture itself was then more accurately examined. It was circular, and capable of admitting a crow-quill. It was evidently fistulous, and of several weeks' standing. It was found to communicate with a very small excavation formed by the softening down of some tuberculous masses, and into this small excavation a bronchial tube was seen to enter. Thus the communication between the trachea and the cavity of the chest was distinctly traced through a bronchial ramification, a very small tubercular excavation situated on the very surface of the lung, and an aperture through the pleura pulmonalis. The left lung presented some trifling tuberculation, but was not materially diseased.

The right lung was much more tuberculated; but the tubercles were principally in a quiescent state. There was no other disease in the chest. Dr. Hodgkin formally declared that every iota of the diagnosis was verified by dissection, and every individual present agreed in this declaration.

Laennec, who first described pneumo-thorax systematically, and who must have seen many fatal cases of it, does not appear ever to have witnessed or practised an operation for its relief, except in one instance, where the auscultic indications of pneumo-thorax being very evident, a sense of fluctuation perceptible, and the oppression rapidly increasing, an incision was made between the fifth and sixth ribs, near their middle. M. Laennec's words are, "No matter flowed, although the passage of air by the wound during respiration proved the penetration of the chest by the incision." The patient died in four hours after the operation. On puncturing the side, near the junction of the third rib with its cartilage, a large quantity of fœtid gas made its escape. On making another incision, about the middle of the fourth intercostal space, a large quantity of pus flowed out, of an intolerably gangrenous fœtor. The reason of this want of success in evacuating the pus, was adhesions in different parts of that side. The case was evidently one of empyema combined with pneumo-thorax, and therefore not parallel with Mr. Cornish's.

M. Laennec, in speaking of the operation for pure pneumo-thorax, believes that it has sometimes been performed *by accident*—namely, where the chest has been opened for empyema, or hydrothorax, and only air has escaped. The above authority gives it as his opinion that the operation offers a far greater chance of success in simple pneumo-thorax (such as Mr. Cornish's case) than in cases complicated with empyema, phthisis, or other serious lesions. In the case forming the subject of this paper, there was no disease in the chest incompatible with life. There was no organ irrecoverably altered in structure, excepting perhaps the fistulous aperture in the left lung; and therefore the patient died from impeded function of that portion of lung which was not collapsed, viz. the right lung. The main cause of the impeded function in the right side was pressure of the air collected in the opposite side; and nothing but an operation could relieve this. Laennec distinctly states it as his opinion that the operation should be performed *whenever the life of the patient is threatened by suffocation.* No one will deny that Mr. Cornish was threatened with this dreadful death.

In this country there is but one other case on record where the operation was performed for pure pneumo-thorax, and the operation was successful. The circumstances of the case, however, were different, and the diagnosis was infinitely more easy in the one than in the other, as will be seen. The case is recorded in the Philosophical Transactions for 1823, by Dr. Davy.

A soldier was sent home invalided from the West Indies, for hæmoptysis, *which had succeeded a severe fall on the left side of the chest, received eighteen months previously.* He was admitted into the Military Hospital of Chatham on the 9th of May, 1823. On the morning of the 13th, after a violent fit of coughing, symptoms or pneumo-thorax came on suddenly, and continued increasing till the 21st. "The most prominent of these symptoms were (to quote the words of Dr. Davy) a feeling of extreme tightness about the chest and abdomen; rapid and difficult inspirations, between 30 and 40 in a minute; great anxiety of countenance and agitation of mind, accompanied by a small pulse of 130; cold sweats, frequently breaking out on the neck and face; considerable prostration of strength. On examining the chest, *the left side was found more protuberant, and, in all its dimensions, larger than the right;* it was tense, and, on percussion, sounded remarkably hollow and tympanitic, giving the idea of its being distended with air. The heart was found beating under the right mamilla."

Under these circumstances it was resolved, on consultation, to tap the chest, which was accordingly done in the following manner:—A trochar was attached to an empty bladder, and the parietes of the chest punctured between the eighth and ninth ribs,* the integuments and intercostal muscles being previously divided with a scalpel. A little air only rushed out, and as it was concluded, from the symptoms continuing, that its escape had been prevented by adhesions of the pleura at the point which had been perforated, the operation was repeated next day. The puncture was now made just below the left papilla, when on withdrawing the stilet into the bladder, a large quantity of air rushed out and distended it. The bladder was now separated. Air continued to rush from the chest for several seconds, "as if from a blow-pipe." When this ceased, and when the air began to pass inwards during inspiration, the canula was withdrawn, and the wound healed. The relief to the patient was sudden and great, and he continued to improve till the 17th of June, when the account closed. No farther history of the case appears to have been published. The heart was still felt beating on the right side, and "the fluctuation of a fluid was perceptible in the left."

It will be obvious that this was a case much more easily discriminated than that of Mr. Cornish. The eye alone showed that the left side was distended with something, and percussion showed that it was chiefly air. The operation was as plainly indicated as in empyema, and auscultation does not appear to have entered into the means of diagnosis.

It differed in another very important respect from the case of Mr. Cornish. When the air was evacuated, the wound was closed, and no more air became accumulated. This proves one or other of the following circumstances—viz. either the original aperture in the lungs, through which the air had passed out, became closed before the operation, or, what is not unlikely, the air was generated in the cavity of the pleura after the effusion of some purulent or sanguineous discharge; and when once evacuated was no longer formed. In either case the circumstances were much more favourable for recovery than in Mr. Cornish's case, where the aperture in the lung had become actually fistulous, and capable of affording a stream of air sufficient to extinguish a candle. It is worthy of remark, that a general adhesion of the pleura costalis and pulmonalis, from preceding pleuritis, would be a complete safe-guard against pneumo-thorax, and the partial adhesions would render the disease comparatively harmless, by preventing such accumulation of air in one side of the chest as would much compress the lung of the other. This was evidently the case in Dr. Davy's patient.

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* This was certainly rather low, as the attachments of the diapraghm must have been touched in the operation.

From the facts already stated, it might be fairly inferred that, had the operation been performed at a much earlier period, in Mr. Cornish's case—in short, when the pneumothorax was first ascertained, and when the difficulty of breathing was urgent—and had the aperture in the lung healed, as it probably would have done, his life might possibly have been saved.

The case, at all events, must form a precedent for the safety of the operation; for the relief, whether temporary or permanent, which it affords to one of the most dreadful kinds of human suffering—suffocation; and for the certainty of diagnosis afforded by auscultation. It has already formed a precedent of another kind—permission to examine the Hebrew dead. Such was the intense interest excited among a large circle of the patient's Jewish friends, that a law hitherto considered as almost insuperable, was broken through, in order to determine whether the operation had been fully justified, not only by the relief obtained while living, but by the evidence to be drawn from the corpse.

From the Journal des Progres des Sciences et Institutions Medicales.

ELEPHANTIASIS OF THE SCROTUM.

The following case is related by Professor Delpech, in the second volume of the *Chirurgie Clinique de Montpellier.*

A native of Perpignan, aged 35 years, of strong constitution, and descended from healthy and robust parents, had enjoyed good health up to the age of 18 years. At this period he was employed in the baking business, and contracted a gonorrhœa, which yielded to demulcents and some mercurial preparations.

When 27 years of age, he served in the cavalry; about this period, a small ulcer made its appearance on the prepuce, and was slightly cauterized; this operation was followed by acute pain and violent inflammation. The disease was treated by mercurial frictions. The ulcer had not entirely cicatrized at the expiration of three months, but equitation, from which he had hitherto abstained, now renewed the pain and inflammation. The engorgement made such progress, that in the course of two months it involved the whole of the prepuce; it gradually, however, became more indolent; and the skin, which was infiltrated, became hard, tuberculated, and marked by deep furrows.

By degrees the scrotum participated in this alteration, particularly towards its inferior part, where the skin was brown, indurated, thickened, tuberculated and traversed by deep furrows. The subjacent cellular tissue likewise participated in the engorgement. The resulting intumescence had at first an œdematous feel, but gradually increased in consistence, till it acquired a considerable degree of hardness and weight, by which the scrotum was drawn down till ultimately the penis and testicles disappeared in the common mass of the tumour.

During the following year, the disease made rapid progress, and the tumour became very irregular towards its inferior part; its increase in the succeeding three years was much slower; several mercurial preparations were unsuccessfully employed.

After the lapse of seven years from the commencement of the disease, the patient was sent to Montpellier. The skin of the penis, scrotum, and the cellular tissue of this part presented all the characters of elephantiasis. The tumour was pyriform, flattened transversely, and divided into three principal lobes. It reached as far as the calves of the legs, and was suspended by a neck eighteen inches in circumference at its smallest part, and occupied all the space included, between the pubic region, the groins and anus; neither the spermatic chords nor the inguinal rings could be distinguished. The skin covering the neck was greatly thickened in front, where it corresponded to the os pubis; it was, however, capable of being thinned by pressure, which appeared to expel the serum from the cellular tissue; while upon the sides and back part it preserved its natural pliantness, and even appeared to have been thinned by the elongation. There was some infiltration into the subjacent cellular tissue, which disappeared when pressure was made with the fingers.

In the lower half of the tumour, the skin was indurated, embossed, and adherent; the whole mass presenting great consistence; the patient complained (when it was compressed laterally at the distance of about a foot from the abdominal rings) of a peculiar sensation like that felt when the testicles are pressed.

Of the three lobes which terminated the tumour below, the anterior presented at its lower part, a large transverse groove, at the bottom of which was a deep sinus which represented the opening of the prepuce, and by which the urine passed. No trace of the penis could be distinguished, but the patient stated that he experienced at intervals, erections and emissions.

Progression and the standing posture were both very painful; the digestive functions were unimpaired; respiration unaffected; the skin perfectly sound in every other part of the body, except that it had a remarkable whiteness, and on the face was slightly lead-coloured.

It was thought that if the sexual organs still preserved their integrity in the midst of the tumour, they might be disembarrassed by a careful dissection, and afterwards covered by layers formed in the sound parts of the skin. The hope of success was authorized by the erections and seminal emissions. The following operation was accordingly performed on the 11th September, 1820.

The patient was placed horizontally with his buttocks near the edge of the bed, his legs and thighs flexed and separated, and supported in this position by assistants. The tumour was surrounded about its middle by a large and strong band, and the extremities given to assistants, kneeling beside the patient on the bed, in order that they might move it as might be necessary during the operation. M. Delpech then traced with ink the course of the intended incisions. The two principal ones began each at the inguinal ring, and passing downwards, encircled the neck of the tumour and terminated at an acute angle in front of the anus. Two other incisions, beginning below the anterior fifth of the first, described a curvature with its concavity outwards, and terminated four inches lower down, at the point where a vertical line would have made the tangent of this new curve; lastly the lower extremities of the two last were united by a transverse incision. By these five incisions three flaps were formed; an anterior, of a pentagonal form, fixed by a narrow base which might represent a sixth side, and two semicircular incisions, separated by the former, and united posteriorly near the anus. The lateral flaps were first dissected off, and afterwards the middle, or anterior, as far as its base, or on a line with the crural arch and pubis, taking care to include only the skin, and that part of the cellular tissue which was loose, and entirely free from infiltration. After securing a few vessels, an incision several inches in length was made beneath the anterior extremity of the right lateral flap, following the axis of the ring; the external pubic arteries were thus exposed, and secured on a level with the groin. A similar incision was made on the left side. Increasing the depth of the incisions, the spermatic chord was exposed and recognised by its muscular envelope which appeared redder, thicker, and broader than ordinary. The cellular tissue in the immediate neighbourhood of the chord and testicles, far from being indurated and lardaceous as in the rest of the tumour, was, on the contrary, loose, transparent, permeable, and tore with facility. M. Delpech availed himself of this disposition to penetrate as far as the testicles, using the index finger as a guide, in order to expose this organ that it might not be injured in making the necessary incisions into the tumour. It was distant a foot from the ring, rather larger than natural, but was white, pliable and soft, and preserved its sensibility unimpaired. It was more firmly attached at its posterior part, than was the spermatic chord in any part of its course. There was, however, nothing in these adhesions resembling the proper tissue of the tumour. The tunica vaginalis contained no fluid. The testicle was disengaged and laid upon the abdomen, after the chord had been exposed as far as the ring. The same course was pursued with the right testicle, which was found in similar circumstances, except that it was more free than the left.

Searching for the cavernous bodies, the operator introduced the left index finger into the cavity through which the urine had flowed, and which represented the opening of the prepuce; making use of it as a guide for the incisions which he was obliged to make from below upwards, in order to lay open the species of canal formed by the tumour, and expose the glans. When this was recognised by the touch, about the height of a foot, greater circumspection was used in continuing the incisions to expose it, and the vertical incision was prolonged, so that the tumour was divided in front, from below upwards, as far as the symphisis pubis. The dissection was continued on both sides, and the cavernous bodies and corpus spongiosum exposed, after having divided the prepuce around the circumference of the glans. The penis, when completely dissected out, was laid upon the abdomen with the testicles. The operation was then continued, in order to detach entirely the neck of the tumour. The left side of the arch of the pubis was first exposed, then the corresponding cavernous body, and successively, the canal of the urethra with its bulb and membranous portion, the erector penis and ejaculator seminis, the sphincter ani, the right cavernous body, and lastly, the corresponding branch of the os pubis.

After the detachment of the tumour, the artery of the septum scroti, the dorsal arteries of the penis, the transverse arteries of the perineum, those of the bulb on both sides, and several branches of the inferior hemorrhoidal, were secured by ligatures, which, in consequence of their great number, were cut away near the vessels.

The testicles were placed upon the perineum on both sides of the root of the penis, the excessive elongation of the spermatic chords rendering it necessary to make them describe several curvatures, in order that they might occupy as little space as possible. The lateral flaps of the integuments were brought together, and retained by the interrupted suture as far as the root of the penis; the anterior flap was then brought down and rolled around the tumour so as to envelop it completely; it was fixed by several sutures, which were made to include a part of the cellular tissue of the penis, in order that it might not slide down by its own weight, and lose the delations which it was desirable to maintain. The sides of the anterior flap, which were not employed in covering the penis, were united by sutures to the upper part of the lateral flaps, which were not used in covering the testicles and their chords.

After the operation, sixty drops of laudanum were given to the patient, to mitigate the violent pain of which he complained; pledgets lightly spread with cerate were laid along the approximate edges of the integuments, and the whole covered by pieces of lint, and compresses, retained by a T bandage.

The next day, the extremity of the flap covering the penis, was found in a state of mortification. The gangrene, however, was soon arrested, and involved only about one-third of the flap. Two days after the operation, the approximated parts were united, except just in front of the anus, where there was a small opening, through which a little serum issued when pressure was made.

At the expiration of nine days, the sutures were removed; and two months after the operation, the cure was complete in all its parts, notwithstanding some trifling incidents, which from time to time occurred to interrupt its progress. The envelope of the penis was adherent throughout its extent, and extended only to the base of the glans, which was left naked.

In February of the succeeding year, the patient was observed to indulge too freely in spirituous liquors. Some representations which were made to him, appeared for a time, to have the effect of rendering him more circumspect. Shortly after, he set off, for his native province, and caught a slight cold during the journey. In a little while he resumed his former irregular habits; his health became bad, and after some excesses, he died with symptoms of hepatitis.

The liver was greatly enlarged, and in the efforts made to detach it, the fingers penetrated into a cavity filled with pus. The testicles were about the size of a pigeon's egg, their fibrous coat was of a bluish white, and the epydidimi of both were apparent; they were separated from each other by an indented longitudinal cicatrix, which after the operation, performed the part of a septum. No traces of the tunicæ vaginales were perceptible. The vasa differentia were followed as far as the vesiculæ seminales, which were smaller than natural. The right thoracic cavity was less than the left, in consequence of the great size of the liver.

From the Edinburgh Medical and Surgical Journal.

ON EXFOLIATIONS FROM THE BONES OF THE PELVIS AS CAUSING THE OBSTINACY OF SINUSES IN THIS SITUATION. By James Syme, Esq. Surgeon, and Lecturer on Surgery in Edinburgh.

Every practical surgeon must have observed that obstinate sinuses are met with nowhere so frequently as in the region of the pelvis. Those which remain after the opening of abscesses depending on carious vertebræ, or caries of the hip-joint, are truly incurable, and being unfortunately of common occurrence, have led to the opinion that little can be done for the remedy of any sinus so situated. The patient is therefore usually committed to the power of his own constitution, nothing being attempted to cure the complaint, except perhaps the occasional injection of some stimulating wash to prevent the appearance of total neglect.

The object of the following paper is to show that the sinuses in question sometimes depend not on caries, but on death of bone, which exfoliating in some part of the pelvis far from the surface, causes continued irritation by the presence of the loose portion; whence it is proper, in the treatment of all sinuses in this part of the body not obviously proceeding from caries, to search for such exfoliations, and remove them if they are found to exist.

Case I.—John Benn, aged 7 years, of a pale complexion, but otherwise in good health, has a small fistulous opening in the upper and back part of the thigh, a little below the tuberosity of the ischium. He suffers little pain, but when sitting is observed to rest on the sound hip. His mother states that the complaint commenced without any obvious cause about two years and a half ago, when a tumour, the size of an egg, made its appearance in the seat of the sinus. She applied to a surgeon, who evacuated, by incision, a great quantity of matter. The opening continued to discharge for a year afterwards, when a small bit of bone appeared at the orifice, and was removed by a gentleman, to whom she applied for the purpose. The sinus remained nearly well for six months, when the running again commenced, and has persisted more or less ever since, that is to say for about a year.

On introducing a probe I detected a loose piece of bone, which was readily extracted so soon as the opening had suffered dilatation by incision. The exfoliation appeared, when carefully examined, to have been detached from a spongy bone, and I concluded that the ischium must have been the one concerned, since the sinus would have opened much lower in the limb if it had originated from the femur. The boy got well immediately afterwards.

Case II.—Soon after meeting with the case just related, I was asked to see a man whose friends believed him to be in a very hopeless state. I found a tall well made young man, who gave me the following history of his case.

Thomas Irving, aged 28, a cooper in Leith. About seven years before the time I saw him, after long and severe exercise of the muscles of the thigh, perceived a sense of uneasiness in the right hip. Soon afterwards a collection of matter formed here, and was evacuated by a surgeon, who informed him that he laboured under a *fistula in ano*, and must have recourse to an operator in Edinburgh, who would soon make him well. Having undergone various incisions, &c. he was told that his complaint was not a *fistula in ano*, and would require time for its cure. He then applied to a quack, who tortured him in various ways too tedious for description. Returning to the regular faculty, he employed a distinguished surgeon of Edinburgh, who opened some large abscesses which formed in the thigh lower down than the original one; but finding that his complaint, though alleviated, was not cured, he determined to abjure all surgical interference for the future, and leave the affair to nature. In conformity with this resolution he permitted the disease to take its own course for several years, working at his business when not prevented from doing so by pain, &c. At last, about two months before the time I saw him, his sufferings became so excessive as to induce a departure from his plan, and he sought the assistance of a surgeon who had attended him in an early stage of his case. This practitioner found a piece of bone sticking at the orifice of a sinus and removed it; but having ascertained that there was more to come away, he tried to dilate the opening by sponge tent. The patient in consequence suffered more than ever from the pressure of the sponge and confinement of the matter. On one occasion the tent slipped in, and required an incision for its removal, which naturally suggested to the patient that the bone might have been more easily extracted in the same way; but such a proceeding not being, I suppose, in accordance with the rules of *systematic surgery*, the tents were persevered in, until the patient, reduced to despair, determined on a change of men if not of measures, and applied to me.

I found a large diffused abscess occupying the upper back part of the thigh, and extending from the hip half way to the knee. In the fold which lies between the hip and thigh there was an opening, which allowed the probe to enter fully three inches in the direction of the tuberosity of the ischium, and at the bottom of this passage I felt a loose piece of bone. The patient was pale and emaciated. Owing to weakness and pain he walked with difficulty; and the long duration of his complaint, together with its progressive aggravation, rendered him very desponding as to the possibility of recovery.

I made an incision into the abscess, and allowed several ounces of pus to escape. Next day I introduced a long straight probe-pointed bistoury into the sinus, and dilated it to the bottom so as to admit my finger, by means of which I discovered that the exfoliation lay in a cavity between the origins of the flexor muscles of the knee. Having dilated the mouth of this cavity with my knife, I easily extracted the bone, which was about the size of half a sixpence.

The patient suffered no bad consequence from this operation, and soon found himself relieved from all his previous complaints. In the course of two or three days he walked nearly a mile to my house, and by the end of two or three weeks was able to resume his occupation.

Some months afterwards he told me that the sinus still discharged a drop or two of matter, and that he occasionally felt a pricking pain at the bottom of it. I examined with a probe, and ascertained that there was a loose fragment of bone, to remove which I again dilated the sinus down to the tuberosity of the ischium; again felt that the exfoliation lay in a cavity between the tendons; and again enlarged the cartilaginous orifice so as to effect the extraction. The piece of bone now removed was extremely small, not much larger than a barley-corn. The wound healed directly, and the patient has remained free from complaint.

Case III.—Mr. H., a clergyman in the west country, brought his son, a tall thin lad of 14, to town, on account of a chronic abscess about the size of the largest orange, which was situate at the upper and inner part of the right thigh, over the origin of the *gracilis*, &c. This complaint was attributed by the patient to falling into a saw-pit on his side.

As there was no symptom indicating disease of the vertebræ, I hoped that the abscess would heal after evacuation. At all events there could be no doubt as to the propriety of opening it, which I accordingly advised to be done so soon as the patient returned home.

The abscess was opened without any bad consequence, though it extended very deep between the adductor muscles, but a sinus remained which resisted all the means employed for its cure: tents were introduced; washes were injected, and free dilatations of the orifice by incision were performed, but all in vain; and at length the surgeon in attendance intimated that he found his probe ascend into the cavity of the pelvis, and that he could do no more for the case. In these circumstances Mr. H. again brought his son to town and placed him under my care.

As there was still no symptom of diseased vertebræ, I strongly suspected that the obstinacy of the sinus depended on an exfoliation. With this impression I examined very carefully and repeatedly, and at last found one at the origin of the adductor muscles. The probe could be passed far beyond this, but I thought that since the loose bone was in all probability the origin of the mischief, a cure would follow its removal, and therefore proceeded to effect this without delay.

Having placed the patient on his back, with the thighs drawn up, I dilated the sinus in the direction of the gracilis, and then introduced my finger under this muscle, quite up to the margin of the thyroid hole. I now felt the exfoliation, which seemed to be very small, but all my attempts at extraction with different sizes of forceps (the common polypus forceps is very convenient for the purpose) proving fruitless, I enlarged the aperture leading to the bone, and then pushing my finger through, discovered that I had previously been able to feel only a small corner of it, and that the exfoliation, which was of considerable size, consisted of the inner table of the bone composing the thyroid hole. I then easily effected the extraction.

The patient suffered no constitutional disturbance, and returned home in a few days. Though the sinus healed slowly, it did so progressively, and at last his father sent me the pleasing information that it was quite well, and that his son had returned to his studies in the University of Glasgow.

Case IV.—Ninian Mackenzie, aged 22, a plasterer, in the beginning of November last asked my opinion as to a complaint which he firmly believed to be incurable. He showed me an opening in the left groin, from which there issued a thin gleety discharge, and around which there were many long cicatrices extending all the way from the pubis to the spinous process of the ilium. He also complained of a painful hardness in the lumbar region of the same side, mid-way between the last rib and crest of the ilium. There was no external tumour, but a distinct induration could be perceived on pressure, which was very painful. In addition to these complaints he mentioned that his legs were so weak as to prevent him from walking steadily, and that he had frequent desire to make water, with uneasiness in doing so. On desiring to know the history of his case, he gave me the following relation.

Five years ago the scaffold on which he was working happening to give way, he fell with it to the ground, and received in the fall a blow from one of the planks on his left loin. He felt little inconvenience at the time, and continued at the work in which he was engaged; but in the course of a fortnight he began to feel pain in the part struck, which gradually increased and extended into the groin, where a tumour about the size of an egg at length appeared, and induced him to enter the Royal Infirmary of this city two months after the accident. Leeches and other measures of a similar nature were employed with the effect of removing the tumour, but not the pain. At the end of eight days he returned home, but found himself unable to work for the following fourteen weeks. He then began to do so, when the pain, which had never entirely left him, increased in severity, and in the course of two months became very distressing. At the same time the tumour again appeared in his groin, and he now perceived that his left thigh was drawn up to the body, so that he could not extend it. The swelling then opened spontaneously, and discharged an immense quantity of matter, with great relief to all his uneasy feelings; but finding that the running continued for five weeks without any abatement, he once more repaired to the Royal Infirmary, where the sinus was injected, and very freely dilated in the groin, so as to occasion the extensive cicatrices already mentioned. At the end of two months he was dismissed incurable. He went home, and during the five succeeding months was treated by different practitioners of eminence in this city without success; indeed the means they employed were the same as those found unavailing in the Infirmary, viz. injections. He at last concluded the disease to be hopeless, and abstained from all farther surgical treatment, working at his trade when the pain, &c. allowed him to do so.

This story, together with my own observations, led me at once to conclude that the painful hardness of the loins depended on an abscess caused by, and containing an exfoliation of bone; and that if this source of irritation were removed, as the patient was a stoutly made young man, he would soon get well.

Having explained to him my views of the case, I obtained his ready assent to any thing I might think proper for affording him a chance of recovery, of which he was naturally very desirous, not only on his own account, but on that of his wife and family, who depended on his exertions for their support.

In the presence of my friends Drs. Mackintosh and Ballingall, I made an incision about three inches long in the left lumbar region, parallel with the crest of the ilium, and cutting down to the induration, opened an abscess containing a thin fluid. I then introduced my finger, and finding an aperture through the abdominal muscles, searched for the exfoliation, which I soon detected lying on the inner concave side of the ilium, and easily removed by means of a pair of long forceps. Many large sinuses could be felt running in various directions, but not being able to discover any more loose bones, I concluded that every thing necessary had been done, and therefore dressed the wound.

The patient suffered no inconvenience in the way of constitutional disturbance, but a very copious discharge issued from both orifices for several days; it then grew thick, diminished, and ceased at the artificial aperture. It still continued, however, at the old opening; and as I found that the sinus descended into the thigh somewhat lower than the orifice in question, I dilated it downwards, after which it also soon healed; and on the third week from the operation I showed Mackenzie to my class *perfectly well*, without any pain or uneasiness of any kind, any defect in his power of progressive motion, or any disturbance of his urinary organs.

The history of these cases will, I hope, effect the great object of this paper, which is to excite a more discriminating diagnosis and active treatment of sinuses of the pelvis. As to the origin of the exfoliations I will not at present say much. It seems very evident that they cannot result from the direct effects of violence, since in all the cases detailed the bone concerned was securely protected by its situation from any such injury. In all of them, if we except the first, where no information could be obtained as to the origin of the complaint, there was violent muscular contraction, and I am inclined to think that this may have been the exciting cause of inflammation and death of the bone. The subject is curious, and worthy of investigation, but of little importance when compared with the practical benefit which may result from a knowledge of the fact, that sinuses of the pelvis sometimes depend on loose exfoliations which will not find their way out unassisted, but which may be readily removed artificially with the effect of a speedy and perfect cure.

From the Edinburgh Medical and Surgical Journal.

OBSERVATIONS ON GOUT. By James Sanders, M. D. Edinburgh.

The histories and dissections now given are in themselves on this account valuable, that they exhibit the functional disorders arising from certain lesions or alterations of structure. In this place, however, these are introduced to furnish a contrast with those of gout, and also points of reference, of which we may avail ourselves in the diagnosis.

My observations published in the 97th Number* tend to warrant the opinion, that all chronic diseases affecting the stomach, liver, bowels, heart, lungs, head, accompanied with spasms, and recurring in paroxysms, are to be considered as varieties of irregular gout. This tendency is only apparent. In the outset, therefore, I wish to erase an impression, than which nothing can be more at variance with my own ideas, nor more directly opposed to the views with which I wrote. I endeavoured to select the principal affections which the assaults of gout imitate, with the design, not of confounding the simulation with the reality, but of preventing rash decision and disastrous practice. Gout assumes the mask of erysipelas. So far from making them one, I showed the danger of mistaking the one for the other. Nor were the counterfeit affections of the chronic character alone enumerated; but with equal care some which are intensely acute; among others, *pleuritis* and *gastritis:*—not with the intention of making them and any form of gout identical; on the contrary, I am solicitous to inculcate caution in discriminating, being taught by experience, that acute pleuritis, treated as atonic gout should be, would almost to a certainty destroy the patient; while the copious abstraction of blood, which acute pleuritis demands, would immediately, or at no remote period, occasion the death of the gouty.

The following might in their progress have been mistaken for cases of chronic gout. They were of long duration; indigestion and hepatic derangement prevailed; paroxysms disturbed those organs which such gout generally attacks, nor were spasms wanting. Gout, however, had not the slightest claim to them. They could not be referred primarily either to the encephalon or spinal cord. Each commenced topically within the thorax or abdomen; organic vitiation ensued; and hence the whole system was gradually involved. This is a distinction to be remembered, that to primary affections of the nervous centre mal-organizations of the other parts stand solely in the relation of consequences.

If it be asked, may not mal-organizations and local irritations excite fits of gout? I answer, they may; though mal-organizations and local irritations are neither gout nor the causes of it. Napoleon Bonaparte died of partially mal-organized stomach and liver, though we are not informed that he ever had gout; and if local irritations necessarily caused it, infancy during dentition would be more liable than advanced age when the teeth are decaying.

Case I.—In the year 1813, a Leith porter, æt. about 56, applied to the Royal Dispensary, complaining of indigestion, uneasiness in the right hypochondrium, oppression at the *scrobiculus cordis*, constipation, and increasing debility. He had been treated for hepatitis, and now stomachics and gentle aperients were prescribed. He felt sometimes better and sometimes worse, but no real melioration. At length œdema distended his limbs, anasarca his trunk, and ascites his abdomen, while hydrothorax oppressed respiration. He suffered extreme agony, with a sense of tension under the right false ribs. His breathing was quick and short; the pulsations so weak and rapid, that they could not be counted; and sweat inundated particularly the upper half of his body. All this time his senses were entire. We left him in the forenoon, not expecting that he would survive many hours. At midnight his wife came to inform me that he was on the point of expiring from an excessive discharge of blood and matter *per anum*. I encouraged her with the hope, that this very event might save him, and desired her to warm port wine, and give it him as freely and as often as he could take it. Next day we found him delivered from all uneasiness, though on the very verge of the grave from exhaustion. Henceforth his health and strength recruited apace, and he wonderfully soon resumed his burdens, declaring himself better than he had been for years. A good many months had passed in this way, when one day, immediately after taking dinner, he set out to his duty, and, bearing a load on his back, fell down on the pier, lifeless.

His body was examined next day. In the *encephalon* there were irregular turgescence of vessels, chronic adhesions of the membranes, mostly by the sides of the *falx major*, and considerable serous effusion both on the surfaces and in the cavities. The stomach contained beef and barley broth unchanged. On the right side, about an inch below the pyloric orifice, the duodenum seemed distended into a sac that might hold an orange of ordinary size. Externally this sack adhered to the liver; its tunics were condensed, and resembled chamois leather; its internal surface was glistening and unequal; its orifice was circular, cartilaginous, and a little less than two inches in diameter. Nothing else worthy of remark was discovered.

Case II.—In the year 1815, a well made little man, æt. 60, applied to me. He had long been afflicted with dyspepsia, oppression of the præcordia, and constipation. His appetite was good, but soon after taking food, the distress at the pit of his stomach was sometimes insufferable; and nothing afforded him so much relief as speedy alvine evacuation. He had often purgatives, which sometimes operated violently, and sometimes harassed him greatly without having the intended effect. He was melancholic and despondent, losing flesh and strength.

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* Journal of Foreign Medicine, Vol. III., page 1.

Moderately generous regimen was ordered; a stimulating liniment to be well rubbed over his stomach night and morning; and to be taken morning, mid-day, and evening, pills composed of tonic and laxative substances. He improved, and for more than a year, to use his own words, "he thought himself a new man." Meanwhile the radical mischief had been increasing insensibly. It was now difficult to move the bowels. He took large doses of calomel and jalap, or of the compound powder of jalap, and repeated them in the morning, *nisi prius.* In a week or two, he told me "that he found it best not to take the purgative on going to bed, because it never operated; but if," said he, "I take the dose when I get up in the morning, it operates powerfully in an hour or two." Accordingly, I advised him to continue taking it only in the morning, and to diminish it, so that he might have but one easy motion once in the twenty-four hours. This he accomplished, and again for some months believed himself independent of medical aid. Hitherto he called at my house, but at last I was requested to visit him. He was far advanced in fever, generally delirious, and in ten days more he died.

Body examined next day.—In the thorax, in the pericardium, and in the abdomen, much serum was effused, and that vascularity, the effect of vital influence failing, which has suggested the appellation of *congestive fever*, was observed. The only thing demanding particular attention was this, that about an inch and a half below the pyloric orifice on the right side there was a sac about an inch and a half in depth, and of the same extent in diameter; in its orifice, interior surface, condensation and external adhesion, resembling the one above described, but so situate, that till it was filled, nothing could pass beyond it from the stomach.

Another skull was substituted, and his encephalon was exhibited in 1817 by Dr. Spurzheim in the hall of the Royal Physical Society.

The internal plate of the cranium was deeply grooved, and adhered firmly in several places to the *dura mater.* Between this membrane also and the arachnoid were strong cohesions. The superficial vessels on the hemispheres, and remarkably on the anterior lobes, were dark and distended, as were those of the circle of Willis; and the branches entering the base of the brain, at the commencements of the fissures of Silvius, were so dilated as to impart to these spots a cribriform appearance. The choroid plexus, the vessels along the base of the brain, and those around the *crura cerebri*, *tuber annulare*, and *medulla oblongata*, were all turgid, and many of them rigid. On the surfaces, in the ventricles, and in the cerebellic cavity, the collection of serum was great. The substance, however, of the *cerebrum* and *cerebellum* was sound, and so firm as to furnish an excellent demonstration, in the presence of a numerous assemblage of medical gentlemen.

Case III.—23*d August*, 1828. I was called to Mrs. ———, æt. 50. Her worn-out emaciated figure lay in extreme distress. Her pulse feeble, unequal, beating from 130 to 150 per minute. She was tortured in her bowels, and to them she ascribed all her suffering. She retched almost incessantly, or vomited green bile. Purgative enemata came off unmixed. Her senses were at this moment entire, and respiration tolerably easy, though both were frequently disordered. The parietes of her abdomen had fallen together in irregular folds like an empty bag; but below the umbilicus, and a little to the right, was felt a tumour, which extended over the *caput cœcum coli*, and upwards under the ribs it was smooth and hard; its interior margin passed in nearly a straight line parallel to, and about an inch and a half from, the *linea alba.* This margin was doubled inward, and could be drawn out or unfolded. She said that she had enjoyed uncommonly good health till during her last pregnancy, which happened twelve years ago. She then was very unwell, and her belly grew to an enormous size. The child was born at the full time, stout, a d is living now. But from that period she declined in health, and was subject to attacks, more or less severe, of uneasiness and pain in her stomach and bowels, which where seldom opened except by the force of physic; nor would she allow that she ever had had any other ailment, unless sometimes headach. I saw her but once, and I here relate all that I could learn from herself of her case. Croton oil induced copious stools of mixed complexion, dark and green. These were followed by great relief. For three days food was taken with relish; then came on delirium, heavy respiration, difficult deglutition, inappreciable rapidity of weak pulsations, cold sweats, and cold extremities. What next supervened need not be mentioned. Next day, August 29, her body was examined.

Encephalon.—Appearances as usual in such cases terminating with extreme exhaustion. Partial cohesions. Serum poured out on the surfaces and in the cavities. Cerebral mass somewhat softened, and incipient *ramollissement* or mollescence in the right *crus cerebri summum.*

Thorax.—Pleuræ pulmonalis and costalis firmly cohering anteriorly; the upper portions of the lungs indurated, tuberculated, and containing small abscesses; water collected in considerable quantity, posteriorly, and in the pericardium.

Abdomen.—The liver and stomach lying lengthwise from the cardiac opening in the diaphragm to below the umbilicus; the stomach stretching under the *linea alba,* convex towards the left, concave towards the right, where it was covered by the thin, doubled edge of the liver, the thick superior convexity of which had left the diaphragm, to take its place upon the right kidney. The remains of the umbilical cord, or round ligament of the liver, much shorter than usual, being hardly more than two inches long; the stomach diminished in breadth, the liver in all its dimensions; both sound in their structure. The tumour which extended over the *caput cœcum* was the right lobe of the liver, and the part turned inwards which could be spread out was its inferior margin extenuated. The duodenum returned upwards by the right side of the spine. The rest of the abdominal viscera were as they should be.

This case is important, especially to accoucheurs. The patient enjoyed vigorous health till her last pregnancy, during which her belly swelled to an immense size, and that distention was attended with disorder of stomach and abdominal pains, to which she was for twelve years after subject. Taking in connexion with this part of the history, the short round ligament, and the displaced liver and stomach, who can doubt, that, while the cavity was enlarging, the round ligament gradually dragged these organs out of their proper site, inducing that train of evils which terminated fatally?

Case IV.—Mr. ———, æt. 40, intelligent, affectionate, easily agitated, had, as long as he could remember, been liable to occasional palpitation, uneasiness at stomach, flatulence, and irregular bowels. He never could go up hill without bringing on dyspnœa; and for many years he had been, particularly in inconstant weather, troubled with pains in the chest, often very acute, and sometimes with hæmoptysis.

It was fixed in his mind that he should die of disease of the heart, because he had a brother who died of hypertrophy of that organ; hence he bore with fortitude any attack of disease, however severe or long, when he was assured that his heart was safe.

About eight years ago he was seized with the most excruciating spasms in the abdomen, and in the inferior extremities. As the liver was suspected, blisters and issues were applied to the right side. Convalescence was tardy, and recovery never complete. Three years ago he took what was called *cholera morbus*. Jaundice soon appeared, with other symptoms, which made him undergo the curative routine of hepatitis. On this occasion he was three months confined, after which his lungs, heart, stomach, bowels, gave him more frequent annoyance than ever, but he was always instantly relieved by free dejections. The same laxatives, however, varied in their effects, being at one time too potent, at another powerless except, that, when the purpose for which they were taken was not attained, his sufferings were greatly aggravated.

He could take with perfect ease a full inspiration, though his heart rolled ponderously, and in its motion seemed to occupy the greater part of the left, or even to encroach upon the right cavity of the thorax. Its pulsations strong, unequal, with many pauses, were synchronous with those of the arteries of the temples and extremities.

In May last he had a smart attack resembling that of cholera, which had recently been epidemic. A few copious bilious stools made him think himself well again. In the ensuing month an attack of the same kind which, though more severe, yielded to the same means. Between this time and the end of July, he encountered three such paroxsyms. Now they became so frequent, that when one ceased, he lay in terror of another. In August his whole body became yellow; and then supervened tension, fulness, and pain from the *scrobiculus cordis* all along the right side; and descending from below the false ribs a tumour of some magnitude was recognised. Incessant retching for nearly three days, and rejection of whatever was received into the stomach, harassed him. Enemata, though retained for hours, returned unmixed. At length an extraordinary quantity of dark green liquid was vomited, and soon after were procured downwards immense discharges of a deep orange colour, mixed with white, curdy masses, and scybala, like balls of pitch, and the whole nauseously graveolent. During this exacerbation the respirations were short and laborious; the pulse was feeble and rapid, above 160 per minute; and the sweat flowed in streams from the head, neck, and chest,—but the evacuations assuaged this dreadful commotion. For a few days he was quite comfortable; digestion went on well; the bowels kept regular, and stools natural; the pulsations were everywhere equable, and not exceeding 70 per minute; and besides, the tension, swelling, and pain from the *scrobiculus cordis* along the right hypochondrium were entirely gone. This happy state continued about eight days, when slight uneasiness at stomach and hiccup came, the harbingers of the same torments in all their fury. This and the succeeding paroxysm seemed to be cut short by doses of five grains of calomel and two of scammony. All the external and internal remedies that could be thought of were tried and repeated or abandoned, according to their success or failure.

His senses kept sound, and his mind wonderfully steady throughout. His ideas were sometimes a little confused, but only when he was drowsy or on awaking. During the last two months the chronic inequality in the action of the heart quite disappeared, and the alvine discharges were much improved in quality, though yellow bile was always superabundant. He was easiest lying on his back. He sometimes turned to either side, but only for a short time. Sitting up he soon became languid, sick, and faint.

Towards the end croton oil, given in doses of three drops twice or thrice at intervals of an hour, afforded effectual relief. At last, worn out with reiterated assaults, the patient died on the morning of the 7th October. Body examined 9th October 1828.

Thorax.—Great flow of pure serum from between the layers of the *mediastinum. Pleuræ pulmonalis and costalis* firmly and closely cohering all around; and the under surfaces of the inferior lobes seemed incorporated with the *septum transversum.* The pulmonic substance was sound of structure, though in the left cavity it was much compressed. The heart was as large as that of a bullock, and the enlargement chiefly in the ventricles. It had lost much of its muscularity, approaching nearly to a cartilaginous state. The left ventricle far exceeded the right, both in the size of its chamber, and in the thickness of its parietes;—one instance added to the many in which I have demonstrated the inaccuracy of those anatomists who assert, "that the thickness of the parietes of the ventricles is in the inverse ratio of their capacities." All the valves were to a rare degree attenuated; even those of the aorta were as thin as the arachnoid coat; nor could they have much obstructed the current of the blood in any direction. The aorta all along its arch was somewhat dilated; its lining membrane of a purple colour, variegated with white specks; and there was incipient ossification at the mouths of the coronary arteries.

Abdomen.—Liver sound, rather small, and suspended from the peritonæum by ligamentous cords. The gall bladder of enormous size, of a square shape, very thin, and containing about eight ounces of diluted bile, of a dull yellow colour, and it appeared as if, when fully distended, it had or could have contained thrice that quantity. The stomach small, and at the middle between the cardiac and pyloric orifices drawn in transversly, as if by a small ligature; its internal membrane was very vascular; it had two compartments, the larger next the pylorus communicating by a circular opening about an inch and a quarter in diameter, the marginal ring of which was from two to three lines thick. The pylorus was rather wider and thinner than usual. A little way from the stomach the canal began to dilate into a smooth sac, which, where the *ductus communis choledochus* and *ductus pancreaticus* enter, was fully three inches wide, and then diminished so, that from one to two inches farther down, the point of the little finger could not pass. Kidneys small, and the linings of their pelves vascular. A few of the mesenteric glands indurated and enlarged. *Cætera sana.*

How are we to explain in these cases the varying effects of the same purgatives? In what way did these local affections involve the other organs, and eventually prove fatal? In the last case, why did the unequal action of the heart, which had persisted at least for the third of a century, subside, and the movements of the heart and arteries, during the few weeks of terminating life, become equalized and regular? I will resume these questions.

In each of these four examples, the general history of symptoms, and the exposition of changed structure so circumstantially correspond, that to any one who comprehends that two threes make six, commentary is superfluous. But it is believed that correlativeness so evident seldom exists; nay, it is contended, that many a time the causes of dissolution are too deep for the most profound and minute anatomical research, no deviation from the healthy condition being discernible. Having found in my own range of observation not one such instance, I contrived to obtain the inspection of certain bodies after they had been opened, and in which it was declared by men of no small reputation, that nothing could be detected illustrative either of the disease or of the cause of death; yet in every one of these bodies I had the satisfaction of demonstrating, that morbid conditions had been evolved quite incompatible with the continuance of life.

From the London Medical and Surgical Journal.

ON THE EFFECTS OF CALOMEL IN PRODUCING SLIMY STOOLS IN CHILDREN. By Chirurgus.

It has often appeared to me that calomel is administered without much attention being paid to its effects, in the diseases of children. I am acquainted with some practitioners who rely almost wholly upon this remedy in most affections to which young children are liable. This practice appears highly objectionable, and likely to lead, in some cases, to fatal results. I shall state simply the effects which I have observed calomel produce on the alvine excretions, when administered in repeated doses, either alone, or in combination with jalap, scammony, or other cathartic medicines.

Children, until they arrive at the age of six or seven years, are very subject to attacks of disorder of the bowels, attended with green and slimy stools, and symptoms of general febrile affection. With the exception of the eruptive diseases, croup, and a few more inflammatory affections, green and slimy stools, accompanied with symptoms of general fever, may be said to form the most common characters of the diseases affecting children at this age. The colour and consistence of the alvine excretions, in these cases, are generally supposed to depend upon a superabundance of bile, or upon some morbid change in the quality of that fluid, and calomel is given with the view of correcting the action of the liver. Allowing, for the sake of argument, that the bile is secreted in too great a quantity, it does not appear to me that the principle upon which calomel is administered, with the view of changing the morbid excretions, is well founded. If it be, the principle upon which mercury is given when the bile is deficient, must be incorrect, for the same medicine cannot be supposed to produce effects so opposite. When the stools are of a clay colour, which is supposed to be owing to the secretion of bile being deficient, a few doses of mercury, in the shape of blue-pill or calomel, will generally change them to a colour approaching the natural. This is a proof that mercury tends to increase the secretion of bile; but this being the case, upon what principle is it administered when the secretion is already too great?

I do not, however, believe, that the bile has much to do, in general, in producing the green and slimy stools in children. I have examined many bodies in which the lower part of the intestinal canal was found to contain a great quantity of green slimy matter, but where its contents were of the natural colour towards the upper part, I have also noticed the colour of the bile in the gall-bladder natural in bodies where the contents of the bowels were perfectly unhealthy in appearance. There does not, therefore, appear to be sufficient reason for attributing the green or dirty colour of the stools, observed almost invariably in the diseases of children, to a morbid alteration of the bile, or to a superabundance of it. If the bile were secreted in too great a quantity only, the stools ought to be of a darker yellow than usual, and not green.

But what I am desirous of showing is, that calomel is generally inadequate to convert the green stools of children to their natural colour. I have almost always found that, when calomel purges are given, the excretions continue of an unhealthy colour and consistence as long as the mercury is persisted in. I do not mean to say that this will always occur; but in the majority of cases it will be found that the stools become even more slimy than before, and, in some instances, they will present a greenish, flocculated appearance. I have witnessed these appearances kept up for several days, under the repeated use of the medicine.

Calomel purges are commonly given with view of clearing out these morbid excretions, and these are repeated daily, or sometimes oftener, under the supposition that, as long as any portion of the green substance remains behind, irritation of the bowels will be kept up, and a return to health prevented. This is an erroneous view, and I feel satisfied that the intestinal irritation, as well as the unhealthy appearance of the alvine excretions, is often kept up by such a practice; and that it sometimes leads to serious consequences, by increasing the general fever, and by producing so much nervous irritation as to bring on conconvulsions in some instances.

Is there any criterion by which the practitioner may judge when to stop? or ought the use of calomel to be dispensed with altogether in the common gastric complaints of children? I should say that, upon the whole, more harm than good results from the practice of giving mercury to young children, in simple gastric affections. I admit that, in acute inflammation, this remedy is the most valuable we possess, and that, in such cases, its effects on the bowels ought to be, in some measure, disregarded, as a more important disease requires to be subdued. But these are affections very different from those accidental attacks of general fever and disorder of the bowels, to which children otherwise healthy are subject.

By attending to the state of the alvine excretions, the practitioner may determine, in most instances, when the further use of mercury is likely to prove hurtful. I have much doubt whether, in cases such as I have mentioned, calomel purges have any superiority over other aperients. It may be asked, what is to be expected from this medicine more than from scammony, jalap, or rhubarb, when only a purge is required? But admitting that the intestines are more effectually cleared out when a few grains of calomel are combined with another aperient remedy, it appears to me quite unnecessary to repeat the mercury so often as practitioners are generally in the habit of doing. If we find the stools continue slimy and green, after two or three doses have been administered in succession, we may rest assured that the mercury will not bring about a change for the better in their appearance. The longer we persist in the use of it, the more unhealthy the motions will appear. I have seen these continue of a greenish, unhealthy colour for weeks, when it has been necessary to persist in the use of calomel in order to remove another complaint, or where it has been given with a view of correcting the alvine discharges.

It is well known that it is generally very difficult to affect the gums of children with mercury. When this is attempted, and when the medicine is administered in doses of a few grains two or three times a-day, for instance, for that purpose, the alvine excretions will always put on an unhealthy appearance. They will show various colours, from nearly black to light gray, and sometimes dirty brown, or approaching to clay colour; at other times they will be frothy, and presenting the appearance of yeast. The reason probably, that the mercury does not affect the gums, depends upon its passing off by the bowels, in combination with the large quantity of slimy mucus thrown out by the surface of the canal, under the use of the medicine. This slime lines the surface of the mucus membrane, and prevents the mercury from being taken up by the absorbents.

The remedy which I have found most effectual in correcting the quality of the green and slimy stools in children, consists of small doses of carbonate of soda, mixed with a grain or two of rhubarb. The rhubarb, perhaps, changes their colour by imparting its own to them, but the alteration produced by these medicines is not only in the colour of the motions, but also in their other qualities. They become more consistent and less slimy under their use; and children, who have suffered a good deal of gastric irritation from the calomel, show signs of being much relieved from pain, after a few doses of the soda have been taken.

From the London Medical Gazette.

EXTIRPATION OF THE LACHRYMAL GLAND.

A late number of a French journal contains an account of some cases of extirpation of the lachrymal gland, by MM. Daviel and Guerin, performed many years ago, but which do not appear to have been published till now.

Case I.—L. S. a peasant, 63 years of age, consulted M. Daviel, August 11, 1741. He stated that eleven years before he had received a blow on the upper part of the right orbit, for which fomentations and other remedies were employed; notwithstanding which the eye is represented as having projected from the orbit so as to produce considerable deformity, and to impede its functions, in which state it continued for eleven years. On careful examination M. Daviel discovered a fistulous opening, about a line in width, which penetrated the orbit. By introducing a stilette, an extremely hard body was felt between the globe of the eye and the bone, which was likewise discovered to be carious at the upper part of the orbit. The following operation was performed:—A director was introduced into the sinus, and an incision made with a bistoury moderately bent, extending from the small angle till within a line and a half of the great one. By this incision the ball of the eye was exposed, and the caries of the orbit seen, and several pieces of it removed. Nearly an ounce of grumous matter escaped, which had been contained in a strong cyst, and which, as well as the lachrymal gland, was removed. This last was nearly as large as a pigeon's egg. A small fatty tumour was also removed from the small angle; after which the eye was easily restored to its natural situation; and squinting, which had been present before the operation, disappeared. The wound was simply dressed, except that little dossils of charpie dipped in tincture of myrrh and aloes were applied to those points of bone which were exposed. In less than a month the patient was radically cured; the eye being as moist as the other, and capable of weeping, as if the lachrymal gland had been present.

Case II.—Mâdle. C. G. aged 18, had suffered from considerable swelling at the upper part of the ball of both eyes for nearly a year. The eyelids appeared œdematous, and the conjunctiva injected: the left eye was much more affected than the other. The disease produced considerable pain, and much inconvenience. On the 1st August, 1745, the following operation was performed:—A vertical plait was made on the upper eyelid, which was divided along with the orbicular muscle and the membrane which attaches the eye to the orbit. A grooved director was then introduced into the incision, which was prolonged to the small angle of the eye by a curved bistoury. A fatty encysted tumour presented itself, in removing which it was found to be attached to the lachrymal gland. This was altered in structure, and was therefore extirpated. The same operation was performed on the left eye. Two points of suture were applied in each eyelid, and the patient entirely cured in ten days, the eyes being moist and capable of weeping, as in the former instance.

Case III.—M. D. aged 50, consulted M. Daviel, 7th March, 1752, on account of a tumour which had appeared on both eyes about a year and a half before. The complaint had come on with great itching of the eyes, particularly the right, the upper lid of which had swelled immediately after he had been bled in the arm. A little tumour was perceived, which gradually increased, and pushed the eye towards the cheek: it seemed to penetrate deeply into the orbit, to the upper part of which, as well as to the ball of the eye, it was attached. The tumour was livid, loaded with varicose vessels; its surface unequal, and projecting nearly an inch from the orbit. The patient suffered from pain in the head, and vision was disturbed. He was seen by MM. Bonow, physician to the king of Poland, and Sue, professor of anatomy, who looked upon the case as very formidable; but M. Daviel, encouraged by his two former cases, gave a favourable prognosis, and performed an operation similar to those above described. A large quantity of fat was removed along with the lachrymal glands, which were scirrhus, and of the size of very large olives. The eyes returned into the orbits. General blood-letting, and various local remedies, were required, and the wounds twice opened to give vent to matter formed within them. In a fortnight the patient was cured, and the functions of the eyes restored as completely as in the preceding cases.

In a future number the cases of M. Guerin are promised.

From the Edinburgh Medical and Surgical Journal.

THREE CASES IN WHICH THE ELBOW-JOINT WAS SUCCESSFULLY EXCISED, WITH SOME GENERAL OBSERVATIONS ON THE TREATMENT OF CARIES. By James Syme, Esq. Surgeon, and Lecturer on Surgery in Edinburgh.

Though few surgeons now make the mistake which was so frequently committed not many years ago, by confounding caries with necrosis, the former of these diseases still remains in much obscurity and uncertainty, whether we regard its pathology or treatment. It is not my intention at present to write a treatise on this subject, but merely to notice some particulars concerning it which seem to me deserving of attention from practitioners.

Caries is generally seated in bones possessing a cellular or open texture, and when it occurs in those of the tabular or cylindrical kind, it is uniformly preceded by a morbid expansion of the compact structure into a state resembling that which naturally belongs to those where the disease usually resides. Every body knows that the shafts of bones, and especially the tibia, in consequence of chronic inflammation, are frequently enlarged, thickened, and at the same time loosened in their texture, which comes to have nearly the same appearance as that of the spongy articulating extremities. In bones so altered caries occasionally occurs, or I should rather say a condition resembling caries, since it differs from this disease in one important feature, viz. *incorrigibleness.* I have hardly ever known this pseudo-caries resist the local application of blisters, and internal use of oxymuriate of mercury; and I have felt very uncomfortable in seeing extensive incisions, rasping, trephining, and glowing choffers bristling with actual cauteries, employed ineffectually to cure complaints admitting of such easy remedy.

True examples of caries then may be said, without any exception, to occur always in spongy or cellular bone, and the appearance of the diseased portion is extremely uniform. Surgeons formerly described many different kinds of caries, the dry and the moist, the worm-eaten and the fleshy, &c. &c.; but this variety of description depended on a confusion of caries with other morbid states of the osseous tissue, which ought to have been, as they are now, very carefully distinguished. The carious bone, after maceration, looks as if it had been burned, being harder, whiter, and more brittle than usual, and there being always more or less excavation so as to expose the cellular structure, it greatly resembles a piece of loaf-sugar which has been partially dissolved by momentary immersion in hot water.

It is of much importance to recollect that caries seldom affects the bone to much depth. Thus we often see an articulating extremity carious over its whole external surface, and sound in the centre. At other times we find it hollowed out into a cavity, the surface of which is carious, while the external shell is sound. The very limited extent of the disease often contrasts remarkably with the extreme obstinacy and severity of its symptoms. Thus, there is in my possession a thigh-bone which I took from the body of a woman who had laboured under caries of the trochanter major for thirteen years; yet the whole disease may be covered by the point of a finger, and is not thicker than a sixpence.

Among the characters of caries, we find mentioned a fetid discoloured discharge; but any surgeon who trusts to such an indication would be greatly deceived, since, as far as I have seen, the matter can seldom be distinguished from that which does not proceed from bone, of what is usually called healthy pus.

Caries cannot, like necrosis, be induced directly by the effect of violence. It depends on a peculiar morbid action, which is probably in all cases preceded by inflammation. Many people think that pressure may induce the disease, but they do so erroneously. It is true that pressure, such as that of an aneurism, causes absorption of bone, and gives rise to an appearance which might be mistaken for caries by an inexperienced or careless observer, but could never for a moment impose upon any one acquainted with the distinctive characters of the disease. The surface exposed by simple absorption differs in no respect from that which would have appeared if the excavation had been effected by violence. We do not here perceive the hardness, whiteness, and brittleness of caries, neither is there any matter secreted from it; and so soon as the caries is removed, the disease ceases. The effect of pressure in causing absorption without inducing caries, is well seen in those common cases of necrosis where internal exfoliation occurs, and the confined pus makes a way for its escape through the cylindrical walls of the bone, since the sides of these passages so produced, the cloacas, as they are called, are in no respect carious, or unfit for healthy action. Deep-seated collections of matter ought to be evacuated early to relieve the patient from pain, or prevent extension of the fluid, but no apprehension need be entertained of caries being produced by its pressure.

Inflammation, as already stated, most generally, if not always, precedes this morbid condition; but it is worthy of recollection that inflammation and even suppuration of bone are not necessarily followed by caries. In cases of compound fracture, amputation, excision of joints, &c. we every day see bones suppurate and granulate in the most satisfactory manner. We observe the same thing occasionally in joints which become anchylosed after being the seat of abscess. There can be no doubt, however, that suppuration of bone which either takes place spontaneously, or in consequence of slight external injury, is very frequently followed by caries, much more so than when it results from a wound which does not heal by the first intention; the reason of which difference probably is, that bone does not readily either inflame or suppurate, but from violence, except in bad constitutions, little able to carry on the process requisite for accomplishing a cure.

Generally speaking, caries occurs in persons of a habit naturally weak or unhealthy, or rendered so by improper modes of life, the suppression of some accustomed secretion, or any other circumstances destructive of the balance of action in the system.

Much perplexity has arisen from enumerating among the causes of caries, scurvy, gout, rheumatism, &c. If, instead of this, it had been said that caries is apt to happen in those disordered states of the constitution which give rise to the symptoms of scurvy, gout, or rheumatism, there would have been no difficulty in understanding the operation of these alleged causes.

The treatment of caries is preventive and remedial. The means of prevention are all those which tend to remove the constitutional defects that lead to the production of the disease, together with the use of those agents which counteract deep-seated inflammation, such as the various counter-irritants from the actual cautery downwards. The actual cautery, though now occasionally employed to destroy morbid structures and suppress hemorrhage, has not hitherto, so far as I know, been used in this country to effect counter-irritation. I have used it rather extensively on the authority of Rust, who, in his treatise on "Arthro-kakologie oder Verrenkungen durch innere Bedingung," adduces the most decided facts in its favour, and I hope that so powerful a remedy will soon come into general use.

Though various external applications were formerly thought capable of altering the morbid action of carious bone, and so effecting a cure, I believe all well-informed practitioners now regard the disease as truly incorrigible, and remediable only by destruction of the part concerned. The question, therefore, comes to be, how can this be best accomplished? The means employed are caustics, cauteries, and excision. The first are little used owing to their inefficiency. The actual cautery is a more powerful remedy, and has many friends, but may, I think, be objected to on the grounds,—first, that in most cases it can hardly be applied to all the affected surface; secondly, that the extent of its operation is very limited.

Suppose we have to treat a carious joint, where the whole respective surfaces of articulation are diseased, how can the red-hot iron be applied over the whole? and unless it is applied over the whole, how can the disease be cured, since the cautery extends its effect to a very inconsiderable distance? But some may deny this last statement, and certainly with the appearance of reason; since any one would suppose, unless taught by experience to the contrary, that the glowing iron must affect the bone to which it is applied, far and wide from the part immediately concerned. About ten years ago, I saw a surgeon remove an eye, together with a large tumour, from the orbit of a boy aged 14, and then apply a succession of full-sized cauteries to the thin orbitary plate of the frontal bone. I expected, that, if the patient did not die from inflammation of the brain or its membranes, the whole thickness of the roof of the orbit must exfoliate. But neither of these events took place; and I found on dissection, some weeks subsequently, that the bone had been affected to a very slight depth. Having my attention called to this circumstance, I took every opportunity of observation, and ultimately satisfied myself, that the actual cautery affects a mere film of the bone to which it is applied.

The only other mode of destroying carious bone is excision, which I am convinced is by far the best, since more can be done by the gouge or cutting pliers in a few seconds, than by the actual cautery in as many weeks or months. In performing the operation, the surgeon ought to expose the bone very freely, and pursue his excision until he feels that he is cutting in sound bone. It is usual to apply the actual cautery after the diseased bone has been cut away; but this proceeding seems to me very objectionable. If any carious bone remains, the cautery, for reasons already mentioned, will hardly be able to destroy it. At least another scrape with the gouge would be ten times more effectual; and if it is all taken away, as it may and ought to be, what can be more preposterous than irritating anew a weak bone, thereby exposing it to the danger of a relapse?

When the large joints are carious, it is much better to remove the articulating extremities entire, instead of attempting to cut away the diseased surface piece-meal, which in most cases, indeed, would be impossible.

In performing the excision of joints, it ought to be remembered that caries does not affect the bone deeply; and, therefore, that while the surgeon ought most carefully to avoid leaving any of the diseased *surface*, he should give himself little concern as to the thickness of bone which he removes. I think it the more necessary to make this observation, from seeing that Mr. Crampton cut away four inches of the humerus, which I should certainly conceive was equally unnecessary and injurious. There is always much effusion of new bone for some distance, generally several inches round the carious portion, and the alteration of appearance thus induced is, I know, frequently mistaken for a morbid one. It is no more morbid than the callus which unites a fracture, and ought, therefore, to be carefully distinguished. As already stated, the surface presented by caries is excavated, rough, and spicular, such as would result from burning a cellular bone and then laying open its internal structure. The surface of effused bone, on the contrary, is convex and smooth; it looks as if the ossific matter had exuded in a fluid state and congealed into drops; so that while the carious part resembles a piece of sugar partially *dissolved* by water, the surrounding effusion of new bone has the appearance of sugar partially *melted* by heat.

The excision of joints is usually regarded as a fearful operation, difficult, painful, and dangerous; and, as I observed several years ago, in relating a case where the shoulder-joint was excised, it is not difficult to discover the source of this apprehension. The slightest wounds of healthy joints are known to be frequently productive of the greatest mischief, and hence the proposal to cut them out altogether seems equally rash and frightful. But it ought to be recollected, in the first place, that all the structure which excites so much disturbance by its inflammation, viz. the synovial apparatus, is removed when the joint is excised; and, secondly, that in cases requiring excision this structure does not exist, being destroyed by the previous disease. Carious joints, therefore, may be cut into with the same impunity as ordinary abscesses, and cut out with no more danger than what attends amputation, or rather not so much, since the balance of action will be less disturbed, *cæteris paribus*, when the limb is allowed to remain. As to the additional trouble and pain which unquestionably attend excision, they ought surely not to be grudged in consideration of saving a limb.

Of all joints those which may be excised with most ease to the surgeon and benefit to the patient are the shoulder and elbow. I have already published two cases of the former, and shall now relate three instances of the latter; trusting that their most satisfactory result will prove a step towards rendering excision a less unpopular operation, and thereby to the saving of many useful limbs.

Case I.—Mr. Y. aged 24, about 14 months ago, began to perceive flying pains in the right elbow-joint. He could not in any way account for the origin of this complaint, and paid little attention to it, until after the lapse of several months it became gradually much aggravated, and accompanied by a weakness of the limb which at length deprived him of its use. The joint being now considerably swelled was leeched, but without any relief. Poultices were then applied for several weeks, when the practitioner in attendance made an incision over the inner tuberosity of the humerus, and evacuated a very large quantity of matter. Other incisions were made subsequently in different parts of the fore-arm for the same purpose. Though somewhat relieved after the discharge of these abscesses, he still continued to be tortured by deep-seated pain, which during the night was particularly severe, depriving him of rest, and almost distracting his reason.

I saw him first in the middle of last October, and found his strength, appetite, &c. less impaired than might have been expected. His countenance, however, betrayed intense and long-continued suffering, and exhibited very remarkably that peculiarly anxious look which so often accompanies disease of the bones. The limb was perfectly powerless, but could be made to undergo a distinct degree of motion without any perceptible crepitus; it was œdematous from the lower third of the humerus to the hand. Though fully satisfied that the joint must be diseased, I could not pass a probe through any of the sinuses which opened on both sides of the elbow, and in different parts of the fore-arm, so as to reach the bone. At last, after many trials, I discovered a very circuitous passage leading to the olecranon and posterior part of the humerus, which seemed to be excavated and carious.

As the disease appeared to be confined to the bones, as the patient was young, and as the irritation of the disease was much greater than what could result from any operation which had the effect of removing the source of disturbance, I resolved to excise the joint, and proceeded to do so on Monday the 3d of November.

Having placed the patient on a sofa, so as to present the elbow in a favourable position, I made a transverse incision at once into the joint, immediately above the olecranon, and extending quite to the radial tuberosity of the humerus, but at such distance from that on the ulnar side as to avoid the ulnar nerve. Introducing my finger by the free opening thus obtained, I found that all the bones entering into the formation of the articulation was affected. I therefore cut upwards and downwards for about an inch and a half at each extremity of the first incision, so as to form two large square flaps, which being dissected from the subjacent bones, exposed them completely. Having ascertained that the ulna was carious as far as the coronoid process, I sawed it across at this part, and then insulating the extremity of the humerus, divided it in the same way immediately above the tuberosities. I lastly removed the head of the radius, which was very much diseased.

No vessel required ligature; but there was considerable general oozing from the cut surface. After exposing the wound for a few minutes, and sponging it with cold water, I brought the flaps together, and retained them in contact by means of a stitch in each of the perpendicular incisions, and three in the transverse one. Some pieces of lint and a roller were then applied, after which the patient was put to bed. The gentlemen present were much struck by the very slight alteration that appeared in the limb after the stitches were introduced.

On the following morning I found the patient had passed an indifferent night, and was looking rather anxious and exhausted by want of sleep, notwithstanding an opiate which he had taken the preceding evening; his pulse, however, was good, and he had had no rigour or other unpleasant symptom. As his bowels had not been evacuated the day before, I directed an injection to be administered without delay. In the evening he was in all respects well; a soft pulse, a clean tongue, and a countenance nearly free from the expression of anxious distress, which had so remarkably characterized it previous to the operation, led me to conclude that there was little reason for apprehension.

Great part of the wound healed by the first intention, leaving very little deformity, but the completion of a cure was delayed by an œdematous state of the limb, which distended the newly formed cicatrices, and impeded the healthy granulating contraction of those parts which did not unite in the first instance. To counteract this disposition I used fomentations with warm salt water and the pressure of a firmly applied flannel roller. I was much perplexed by a similar occurrence in the case of Christian Laing, whose shoulder-joint I excised four years ago, and remedied by similar means. In regard to this woman I may notice that she continues quite well, using her arm for all ordinary purposes, sewing, knitting, carrying, &c. so that no one could suspect from her appearance that there is any defect in the limb. Mr. Y. is now gradually gaining strength in his arm. He retains a great extent of motion, which is effected without any uneasiness. He is able already to write, and will soon, I have no doubt, recover nearly the entire use of it.

Case II.—A. L. aged 8, in February last fell upon his left elbow while playing with some other boys. The joint soon afterwards became enlarged, stiff, and painful, but not so much so as to excite alarm until the month of April, when his mother brought him to me for advice. I then found the appearances very unfavourable; the limb being straight and nearly immoveable, with much swelling of the elbow. The usual measures were employed, but did not prevent the formation of an abscess, which pointed on the outer side of the elbow between the radius and olecranon. I evacuated the matter by incision, and advised that the patient should be taken to the country, as his health had suffered considerably. About the middle of August he returned to town much improved in all respects, his general health being quite restored, and the joint being much more moveable as well as diminished in size. Matters continued in pretty much the same state until October, when, finding that the sinus did not heal, I introduced a probe, and ascertained that the olecranon was carious. Having explained the obstinate nature of the complaint, which rendered a spontaneous cure hardly or rather not at all possible, and the necessity of amputation at some future period almost certain, I readily obtained permission to do what was required for the patient's relief.

On the 20th of October, I exposed the olecranon, and by means of cutting pliers removed a great part of the shell into which it had been expanded. This enabled me to extract some loose pieces which lay within the cavity. And, hoping that these might have occasioned the obstinacy of the complaint, I prosecuted the excision no farther, and dressed the wound with dry caddis.

The patient made no complaint whatever after the operation. He could not be confined to bed after the first day, and was with difficulty persuaded even to remain at home. The wound assumed a very healthy appearance, and soon contracted to its former size, but there it remained, and the probe discovered that there was still some diseased bone.

Perceiving that another operation was required, I determined to make it an effectual one; and proceeded to do so on the 27th of November. I made a crucial incision, like a St. Andrew's cross, so as to obtain four flaps, which being reflected, I divided the ulna below its coronoid process with the cutting pliers, and then removed the detached portion, though not without some difficulty, owing to its connexion with the brachiaeus internus. I next examined the radius, and finding the centre of the round articular surface carious, cut off its head. I then directed my attention to the humerus, and finding an unsound part in the trochlear hollow, cut off the whole articulating surface. Having thus finished the operation, I brought the edges of the wound together by means of four or five stitches. There was little bleeding, and no occasion for any ligatures.

There was little constitutional disturbance, but the wound did not unite in any part by the first intention. There was some sloughing of the unhealthy soft parts, and very profuse suppuration, which in the course of a few days diminished to the proportion of a healthy sore. The patient was running about as usual by the end of the first week, and on the day three weeks from the operation, I showed him to my class with the wound all but healed. I did so to impress them with the fact, that recovery after excision is not nearly so tedious as it has been represented. The mobility of the limb as to rotation, flexion, and extension, remains; he is already able to lift weights with it, and will ultimately, I expect, find little difference between it and the right one.

Case III.—Ossory Fitzpatrick, aged 41, a ship-carpenter of Liverpool. Somewhat more than a year ago began to observe occasional wandering pain in the left elbow, together with some stiffness of the joint, but was not rendered unable to use the limb until between two and three months ago, when the swelling and pain became excessive, with violent disturbance of the whole system. The fever subsided, but the joint remained swollen still and very painful. An abscess was opened by the knife, and other apertures appeared spontaneously, which did not heal. In this state he applied to me on the 1st of January. On introducing the probe through more than one of the openings which have been mentioned, I readily passed it through the joint, grating against carious bones. I proposed excision, and meeting with the patient's ready consent, performed it on Sunday the 3d.

Having placed the patient on a table with his face downwards, so as to present the elbow conveniently, I made two square flaps as in the first case. Finding that the ulna was diseased quite down to the coronoid process, I sawed off the olecranon merely, and then cut away with the pliers whatever other parts required removal; by which mode of procedure, the obstacle afforded by the attachment of the *brachiaeus internus*, which proved so troublesome in the second case, was avoided. I then detached the head of the radius, which was completely carious over its whole articular surface, and removed the extremity of the humerus with the saw; but finding that the disease did not seem to be eradicated at the ulnar tuberosity, I cut away both it and the radial one, so as to leave no room for anxiety or doubt. No ligatures being required, I inserted five or six stitches, so as to keep the cut edges in contact; then applied some folds of caddis, and lastly, supported the limb by means of a roller.

This operation was much more difficult than either of the former, owing to the very firm connexions of the bones. It occupied, with the dressing, &c. a quarter of an hour.

The wound healed entirely by the first intention, excepting a space not larger than one of the original sinuses, and the patient suffered no constitutional disturbance. In two or three days he was walking about, and by the end of a fortnight the cure might be considered complete. The motion of the joint, in flexion, extension, and rotation, is not at all impaired, and there is not the slightest deformity.

The ulnar nerve was not injured either in this or the other cases, though, instead of exposing and holding it aside, as has been advised, in order to avoid the error of Moreau, who cut it across, I trusted merely to my knowledge of its situation.

I should have been happy, had it been in my power, to state along with these cases, the condition of the limbs as to strength, mobility, &c. after the complete recovery and exercise of several years; but I think it would have been wrong to delay their publication so long for this purpose. I am anxious to prevent the unnecessary sacrifice of any more arms. I have amputated when excision was practicable, and when I wished to have performed it, but being less able to bear responsibility than at present, was prevented from doing so by the want of authority, since no practitioner would sanction an operation which had not any precedent in Great Britain. The almost forgotten operations of Moreau will now again perhaps be reconsidered, and the recent case of Mr. Crampton, together with those now submitted to the public, will, I hope, make such a deep impression on the profession, as may induce its practitioners to pause before they mutilate a fellow-creature by amputating his arm for disease or injury of the elbow-joint.

From the London Medical Gazette.

SOME OBSERVATIONS ON THE TREATMENT OF SMALL-POX, BY PUNCTURING THE PUSTULES. By ALEXANDER STEWART, Assistant Surgeon,—2d Dragoons.

Amongst the various lights that are daily thrown upon medical science, few perhaps have been more permanent or successful than vaccination on small-pox. It is true, various circumstances may have occurred partially to obscure it when, without any known cause, (except idiosyncrasy) it has not prevented the subsequent attack, nor fatal effects of small-pox. Besides, there are prejudices amongst many people, of different grades in society, which prevent them from flying to this almost certain preventive—whether they choose "to leave it to Providence" or prefer variolous inoculation. Under these circumstances, I feel called on to lay before you a method I have successfully made use of, and which has also been practised with equal success by others to whom I have pointed it out. Whilst the pustule is yet lymphic, (I would almost say papular) and before much, or any ulceration and suppuration have taken place, a needle is to be passed through it, as near the base as possible, while the surgeon, having a small bit of dry lint in the other hand, is to press the apex gently on the base, and there retain it about a minute or two. This is to be done to all separately, and individually, as they appear. The effect on each is various—in some, an almost immediate cohesion will take place between the apex and the base, and a small superficial scab will be the consequence; the ulcerative action merges into adhesion, the red basis gradually subsides, and when in a few days this superficial scab falls off, the part is healed without pitting;—in others, the little pustule will again fill; if so, it is to be punctured and pressed down: the apex and base may then unite by the first intention, or it may again require the operation a third time, to accomplish the object; but seldom have I in any case known it require more. The constitutional treatment must of course be adapted to the circumstances of the case, as if this mechanical and local one had not been made use of. It may be objected that it is laborious going over each pustule, when a full crop has covered the surface, but we cannot have any thing without trouble, and maternal solicitude will not find it irksome. At first the motion requisite will greatly disturb the child and distress the parent, and perhaps render her unwilling to pursue the task, but the evident relief so shortly produced will raise her hopes, and reconcile her to the process. When confluence is apprehended, and two or more pustules are so close that their inflamed bases are united, let each be punctured separately as far as possible from the other at the same time, and let the surgeon press between them with lint,—a separate bit for each pustule. The contained lymph is absorbed from each as it is pressed out, the adhesion of the apex and base is separately produced, and confluence is prevented. This method is invaluable to females, as little if any pitting is to be found after the part is healed. I am not aware of this treatment having been recommended:—pustules, vesicles, and papulæ, have been broken down in all the stages of the disease, but it would appear to me, more to obtain fluid for experiment, or to see the nature of the contained fluid, than for a curative purpose, no pressure being used, nor the above mode of practice proposed. The idea suggested itself to me, when in the country, on the 21st November, 1827, in consequence of a man requesting me to attend his son, a fine boy about three years old, then covered thickly with the eruption. Being aware that puncturing after maturation is sometimes recommended, with a view to prevent the absorption of pus, and also considering that ulcerative inflammation is the principal cause of the after pitting on the surface, it appeared to me that by early puncturing, and bringing the parts together before maturation, and while under a comparatively simple inflammatory excitement, a new and healthy action might be produced, and the specific tendency to suppuration and its consequences destroyed:—the event justified this opinion. Mr. John Hunter has demonstrated by dissection, that a slough exists in the cutis in small-pox, answering to the size of the pock, and which he considers peculiar to this disease. Others believe this slough to be the cause of pitting, and as being attendant on each pustule that goes through its course of suppuration and pitting. We must hence be led to infer, that if the inflammatory excitement producing this slough be early employed in producing adhesion, the formation of the slough, and consequently future suppuration and ulceration, will be prevented. But Mr. Hunter seems to consider that the formation of the slough is not so much the effect of intensity and degree as the peculiar kind of inflammation. In reply we must observe, that peculiarity of inflammation is a thing we know little about, except from its tendency and effects:—that if a healthy inflammation be produced where an unhealthy one existed, then the existence of that peculiarity of action becomes of little consequence. The practice mentioned in this paper I have recommended in other cases, not only of smallpox but of severe varicella, and found it successful. I now beg leave to lay it before the profession, most of whom in civil life will have better opportunities of meeting with the disease, and judging of the merits of the practice, than military medical men, the vaccine system being too rigidly enforced to meet often with this formidable disease in the army. Whether the disease, thus destroyed in its infancy, can have the effect of preventing its recurrence in after life, must be as yet only matter of speculation, but it would appear to be of no consequence, for the treatment that once could so easily check the disorder is always at hand to remove it.

From the London Medical and Physical Journal.

CASES OF BURNS TREATED BY THE APPLICATION OF FLOUR. By J. Marshall, Esq. Surgeon.

The minutes of the following case of a severe and extensive burn, with two slighter ones, may probably be deemed worthy of publicity through the medium of the London Medical Journal, with a view to exemplify the practical effects of a simple but highly efficacious remedy. Previously to entering upon a detail of the symptoms, it is deemed expedient to make a few cursory physiological and practical observations, on the *modus curandi* of this remedy.

This mild substance is doubtless pre-eminent to all others hitherto in use, by imparting immediate ease to the inflamed and irritable surface; it rapidly heals by the scabbing process, in uniting with the discharge from the abraded cutis; and almost instantaneously forms a temporary semi-transparent covering, thereby assisting the natural functions in restoring the epidermis. The advantage becomes evident by stopping a profuse discharge, and the tedious progress of ulceration. That remarkable substance, the animal gluten, peculiarly contained in wheat, seems in this instance to assist the rapid regeneration of the scarfskin, and thus protects the cutis and rete mucosum. The surface of the body being wonderfully supplied by the extension of the cutaneous nerves in the form of a soft pulpy membrane, somewhat resembling the expansion of the optic nerve on the retina, readily affords, it is presumed, an explanation of the great violence offered to the system in all cases of extensive burn or scald.

This topical remedy is equally suitable to either of these accidents, and perhaps eventually will be found useful in many other cutaneous affections. It has been recently tried by me in the case of an infant three months old, who laboured under an inflammation, attended with ulceration, pouring forth an ichorous discharge: the parts affected were the lips and chin, the right groin, the scrotum, the inside of the right thigh and leg down to the toes. The result was most satisfactory: some parts healed in a few hours, and the whole surface in three or four days. The thickened state of the scrotum, although unavoidably exposed to the frequent irritation of urine, also yielded.

When the flour has formed the artificial covering, the further application becomes comparatively superfluous; which is perceived by its rolling off. This circumstance may be demonstrated by the following example, which equally applies to the manner in which all the other ulcers were healed. The external surface of the nose, from the destruction of the scarfskin, was ulcerated: in the evening it had ceased to discharge, and was apparently healed; the swelling had likewise subsided, and the part assumed its proper size and form: the flour became unnecessary, no longer resting on its surface. This ulcer was particularly regarded, under an impression that the skin of the face, from its peculiar structure, is susceptible of a greater degree of irritability than other parts.

In the lady's case, when the cuticle was completely renovated in some places, though not generally, it imparted a very peculiar feel to the touch, by resembling the dryness and smoothness of parchment: the whole covering of the biceps muscle of the right arm was thus circumstanced. Probably this may be ascribed to the advanced age and previously emaciated state of the patient. This new healed part was of a dark livid purple, which occurred in many other places, accompanied with a similar sensation.

Mr. B. scalded the back of his hand and fingers with steam: he consulted me four days afterwards. The parts were inflamed and swollen, with three blisters going into a state of suppuration. By applying the flour every hour, in less than two days the swelling, inflammation, and ulceration, were completely cured, although the patient had been many years in the habit of indulging freely in ardent spirits. On extending the hand, the back was corrugated, and the cuticle rather stiff and polished.

A boy scalded the left ankle-joint and upper part of the foot. He had applied Goulard's lotion the first two days; and afterwards a dressing, spread on lint, of red precipitate rubbed down with yellow basilicon. Five days after the accident I saw the patient: the part was highly inflamed, and nearly covered with blisters, which had been injudiciously opened, in a state of rapidly spreading ulceration, with a purulent discharge. He could neither use the joint nor bend the toes, being stiff from painful distention. The stimulating dressing was carefully wiped off, where practicable, and the flour substituted. The youth expressed immediate relief. He was directed to apply it every hour during the day, and as often as he awoke in the night, and, wherever the discharge issued through the layer, to apply the flour more assiduously.

Second day.—The patient had passed a good night. Swelling nearly subsided; the surrounding inflammation gone; the ulcers mostly healed: one of them still contained a portion of fluid, and another, near the inner ankle, gave out a discharge of matter. He moved the toes and ankle joint freely. The change was very remarkable.

Third day.—The fluctuating matter that appeared on the preceding day was wholly absorbed. Patient free from pain. The ulcer near the inner ankle gave off a trifling discharge. On removing from the surface the coat of flour to inspect the character of the granulation, it was found in a most healthy and healing condition. The frightful aspect of a general, ill-conditioned, and irritable ulcer, which threatened mischief on the first view, was effectually removed.

Fourth day.—The surface of the part affected was washed with tepid water, in order to obtain a full view of its state. The whole was healed, except in two small places, not so large as a horsebean, which were in a healthy healing condition. The new skin was of a red hue, and shining.

Mrs. H., a lady in her eighty-fifth year, possessing a good constitution, but greatly emaciated by age, accidentally set fire to her clothes. Her face was much swollen; the hair, eyebrows, and lashes destroyed. It was impossible to recognise her features. The closed and thickened eyelids were opened with difficulty. The other parts injured were the neck, chest, ribs, the back (exceeding half its length,) the arms, from the shoulders to the finger ends. The cuticle was raised into numerous blisters, the size of walnuts, on the swollen fingers, palms, and backs of the hands; the epidermis loosely hanging in flakes or tatters on the back, arms, and ribs. This extensive surface, coloured by various hues of red, yellow, and purple, discharged a profuse ichorous and purulent matter. Skin hot; quick, irritable pulse; white tongue, great thirst, and incessant moaning, arising from her sufferings, accompanied by the most afflicting state of mental anxiety.

It is to be regretted that this state of disease was permitted to remain unassisted full twelve hours. On the free application of the flour to the whole surface, the patient ceased to moan, the spirits revived, and she expressed the greatest relief. The flour was applied every hour, but more frequently wherever an oozing of discharge appeared.

In the evening, the skin was cool; pulse steady, eighty-two; the countenance restored to its natural appearance; injured parts looking much better; the discharge generally reduced; bowels had been relieved by an aperient; tongue moist and clean.

On the following morning, (second day,) the patient was cheerful; had slept four hours during the night; had partaken freely of diluents; tongue clean; pulse seventy-eight, skin temperate.

In the evening, no alteration, but the surface more generally healed, and the discharge almost wholly subsided. From so decided an improvement, and the absence of symptomatic fever, hopes were entertained of recovery.

On the morning of the third day, the lady had passed a tranquil night, with intervals of sleep; the tongue had a brown tinge, but moist. Hitherto a febrifuge draught had been taken occasionally; a tonic was now substituted, with infus. rosæ et spiritus ætheris nitrosi, and a gentle laxative.

In the evening, the pulse 100; tongue darker brown; skin hot and dry; respiration hurried. Ordered inf. rosæ cum sulph. quinæ.

The fourth day.—The bowels open. She had passed a restless night, with muttering delirium; subsultus tendinum; pulse 110, skin hot. These symptoms increased towards night.

On the fifth day, the tongue was black and parched; sordes on the lips; great difficulty of deglutition, speechless and convulsed.

She died about five o'clock the following morning.

As the local affection was so happily relieved, and the symptomatic fever for a time suspended, the immediate cause of death must be attributed to the violent shock the system had sustained, together with extreme old age. The case, however, forcibly illustrates the healing effects of flour. The ease with which it is directed by the dredger, and re-applied, without handling or disturbing the parts affected, may suffice to demonstrate, with the foregoing cases and observations, the superiority it possesses over all former dressings. By checking the progress of severe ulceration, it will effectually prevent the frightful scar, the wry neck, contracted limb, and destruction of parts by sloughing.

From the Medico-Chirurgical Review.

AN ESSAY ON REMITTENT AND INTERMITTENT DISEASES, *including Marsh Fever, Neuralgia, &c. &c.* By JOHN MACCULLOCH, M.D., F.R.S., &c.

[Art. IV. (and last) TREATMENT OF NEURALGIA.]

We are now enabled to complete our analytical review of Dr. Macculloch's interesting and valuable volumes—and we do not regret or apologise for the great space which we have occupied in this analysis. We are convinced that we have, through this medium, disseminated more original and important matter, and that to a greater extent, than has ever before been done through the vehicle of a review. We are confirmed in this opinion by the numerous applications which we have, from time to time, received, soliciting a further prosecution of the annalytical delineation of our author's volumes. We now hasten to put the finishing hand to our task.

CHAP. X.—RHEUMATISM OF THE EYE—OR, NEURALGIA OPHTHALMICA.

Dr. M. assures us that the doctrine of the malarious nature of neuralgic ophthalmia was entertained by him a great number of years ago—and has since been annually confirmed by extensive personal observation. Dr. M. remarks that, whenever medical practitioners shall pay minute attention to the distinction between this disease and common ophthalmia, they will find plenty of examples. The loss of sight is not an uncommon consequence of want of discrimination in such cases.

"In some places, this ophthalmia is arranged by Sauvages with his Migraine or Hemicrania, under the term 'migraine des yeux,' and in others under other titles: proving his want of correct notions respecting it: while Cullen does not take the slightest notice of it in his very meagre and superficial description of the general disorder. The former remarks that it produces inflammation in the globe of the eye, terminating in a confusion of the humours and in suppuration; unaware apparently of the milder cases, yet, in another place, noticing its tendency to return in the second eye after destroying the first. In St. Yves and Maître Jean, some cases of it are described by the term *amaurosis;* that expression apparently meaning the destruction of the humours: while it is remarked that it endures for months or years, that it is attended by fever, hemicrania or clavus, want of sleep, and giddiness, and that it attacks one eye after the other: while the former oculist, adopting the usual resource which ignorance has resorted to in so many more of these disorders, proposes to prevent this second attack by extirpating the first eye. I did not say too much when I said that had the surgical sect believed the sciatica to be Neuralgia, and dared to extirpate the sciatic nerve, they would equally have had recourse to their panacea, the knife.

"Among many casual notices of this peculiar ophthalmia, and unsatisfactory as casual, I must however distinguish the essay of Wardrop; the first, I believe, through which the attention of physicians was fairly called to it. To praise that essay for the accuracy of its description of a much neglected disease, is but to agree with all who have read it: yet I should be negligent of my duty did I not remark, that however perfectly my able friend has seen and discriminated this variety, his account is limited to the severer cases, and that he has not appeared to be aware, in his essay, whatever may be the case otherwise, either of the slighter and less marked, or even of the chronic varieties, or of the extreme prevalence of this peculiar species; and that, in consequence, there is almost as much error prevailing, in practice, respecting it, even under the name which he has adopted, by those who have had the advantage of his experience, as there was before. Thus also I perceive no notice of its properly intermittent and alternating characters; while with respect to other portions of the description, such as the general fever, the bilious symptoms, the decided neuralgic and periodical pain, to which I may also add the utility of bark, I should desire no other evidence to prove that it demands the term which I desire to apply to it, and that it is in reality a mode of Neuralgia. I shall however be able to produce much further evidence of its connexion both with that disease and with intermittent: and if I were inclined to express any surprise that so acute and experienced an observer had not formed the conclusion to the very verge of which he has approached, I should suppress that by recollecting, that in this as in every other disease which I have here described under this leading character, the foundation and cause of all the error must be sought in the want of a correct and broad view of the fundamental disease itself: Neuralgia." 252.

Dr. M. acknowledges that, on farther research, he has found notices of the connexion between ophthalmia and intermittent, in the writings of Morton, Strack, and Monfalcon—the latter remarking that this kind of inflammation is very common in the malarious districts of France, and is very apt to terminate in opacities. Like all the neuralgic diseases, this one sometimes occurs under a periodical character—at others, it is irregular. But the same may be said of rheumatism of the face, of which it is a near relative.

"It is observed, and perhaps very commonly with truth, that this ophthalmia is produced by exposure to cold winds, very often by partial cold, and very particularly, as it is thought, by a sudden impulse of the east wind on the eye, or face. The popular term in this case is, a 'blight;' while as it is not unusual for the east wind to be especially attended by dust, this is often esteemed the exciting cause, and is as often vainly sought after; the patient being misled by the well-known sensation which follows the enlargement of the small vessels.

"Now, so far from this view of the cause being averse to the opinion of its belonging to the class of intermittent and neuralgic disorders, cold so applied is precisely one of the causes which produces these also, just as it excites the rheumatism of the face; adding a proof, such as it may be thought, respecting the true nature of that disease as well as of the ophthalmia in question. An average of cases will show that the rheumatic ophthalmia is much more common in spring and during east winds than at any other time, and the very vulgar themselves are indeed convinced of this as to ophthalmia generally: while it will I believe be found, that nine cases of ten, or indeed far more, if not even all of the ophthalmias thus occurring, are this very disease. And I formerly showed, while I have attempted to explain the cause, that such east winds, at that season of the year, do produce intermittents as well as Neuralgia; and that as far as cause is concerned, the whole of these disorders unite under one general head, instead of being separated by differences of cause: while it is still easy to see how the local action of cold on the eye or face, might determine the local disease especially; the wind thus acting by a double power." 256.

The above reasoning is equally ingenious and just—and it will be found, on accurate observation, that this disease abounds most in those seasons or years in which marsh fever rages most. It is completely proved by the geographical bearings of this ophthalmia, that malaria is at least its principal cause. It is endemic on all coasts of the Mediterranean where fevers prevail, occurring very remarkably, at the same season, or in the pestilential months of summer and autumn. It prevails along the marshy coasts of Barbary, during four months of the year—while at Tripoli few escape it. It is common at Rome, Naples, and other parts of Italy, where malaria is acknowledged to be predominant. In Spain, this ophthalmia is extremely prevalent on the maratime coasts that are subject to fever—especially at Valencia, Albatera, and Clivillente. The following is the graphic description of the disease itself, as drawn up by our very intelligent author.

"There is a peculiarity in the aspect of the inflammation itself, far easier to recognise than to describe, and by which alone it is generally distinguishable, even at a distance, and on a mere glance, to those who have acquired that experience which in other cases is called the *tactus eruditus*. I have sought in vain for expressions to say fully what this is; but I believe it to be as useless as difficult, since, however accurate they might appear to those who already know this inflammation by sight, they would not teach others to know it, inasmuch as no visible object can be justly described to the previously ignorant; while such a description would be useless to those who are already experienced in this ophthalmia. The more obvious character, however, is a dull, rather than a lively red colour, not unfrequently attended by a tinge of yellow; the cause of which is especially visible in the sound eye when but one is inflamed, and the source of which must now also be obvious, particularly in autumnal cases. This inflammation occupies the whole conjunctiva, even to the verge of the cornea; and while the redness is rather produced by the minutest branches of the arteries than the larger ones, the general aspect is almost that of an additional coat of red cloth in the severer cases, sometimes attaining a higher level than that of the cornea.

"In severity, however, it differs exceedingly, from a mere general, and somewhat pale, redness of the conjunctiva, to that violent inflammation just noticed. Here, it is apt to resemble the celebrated contagious and purulent ophthalmia; but it can nevertheless be distinguished by attending to its progress and to the collateral symptoms, while it never, as far as I know it, suppurates on the surface, like that disease. This is a part of its history however on which I must yet speak with some hesitation; as, after many years of observation, whence I concluded that it never did suppurate, my opinions have been recently shaken by one or two cases, though I had not the opportunity that was necessary for satisfying myself as to the real nature of the disease in these. Whenever it shall, as a separate disease, have received from physicians the further attention which it requires, this, and some other circumstances which I cannot now well elucidate, will be better understood; while I shall gladly avail myself of such information; though it will be necessary that this disorder shall be truly discriminated for this purpose, lest we return into worse confusion than that which I am attempting to rectify." 261.

Such is the general and obvious character; but there are one or two remarkable circumstances that yet deserve remark. It is often unattended by any pain in the eye itself—especially where it is of long standing and not very severe. There are cases, however, where the pain and irritation are as great as in purulent ophthalmia. This is a peculiarly obstinate and untractable disease—lasting, for months, as a mere deformity, and with little suffering, resisting every means of relief—and being generally aggravated by depletive measures.

Mr. Wardrop has remarked a peculiar sense of dryness in the eye at the commencement—followed ultimately by a copious lachrymation. The latter symptom Dr. M. can confirm by ample observation. He cannot so speak of the first.

"When there is no pain in the ball of the eye, it would seem that the conjunctiva alone is affected; while, when irritability to light attends, we must suppose that the neighbouring vessels, and nerves, within the eye, are in that state, be it from sympathy or extension, which so often occurs in the rheumatism of the face, and in common Neuralgia, where, added to the decided inflammation and pain, there is an excitement, a tenderness, or an irritability in the adjoining parts. It is not necessary that the eyelids should be affected, or that the inflammation of the conjunctiva of the eye should extend over that of the eyelid; though this happens in the severer cases, and, as it would seem, rather in the acute than the chronic ones. It is a fortunate circumstance, that this inflammation is so much and so often resisted by the transparent cornea, as is the fact also in some other ophthalmias; but abundant instances of this do nevertheless occur. Rigidly speaking, and in the severe cases, the cornea becomes dull; and if this opacity proceeds, it at length forms a cloud or a spot which diffuses itself over the whole eye, while it is more condensed in the centre. Fortunately, even when very considerable, this commonly disappears, under proper treatment of the general disease, and even within a day or two; while I have seen it return many times, under different relapses and in successive seasons, without any more permanent effects. In such cases also, it will sometimes be found, by means of a lens, that there is an ulterior disorder of the cornea, resembling very superficial ulceration; equally disappearing, and without bad consequences, with the general inflammation. Far more rarely does it affect the iris; but cases even happen, as I shall soon show, where that membrane alone is the seat of the disease; the neuralgic affection producing here a rheumatism of the iris; to adopt the common phraseology." 264.

The neuralgic ophthalmia sometimes attacks suddenly, and arrives at its full degree of intensity in a few hours;—but it is often *preceded* by an intermittent or remittent febrile state, which, however, is too generally overlooked. Some symptoms of this kind will almost always be detected *during* the attack, a fact which we can substantiate by personal observation. Sometimes this ophthalmia is the sequela of a neuralgic pain in the face, as in the eye-brow, temple, or lower jaw—or even in remote parts of the body. All these circumstances mark distinctly its connexion with intermittent and neuralgic affections generally. Great modifications will be produced in the characters of this complaint, according as it is in an acute or a chronic form. The following circumstances will, however, be detected by all careful observers.

"A watchful physician will rarely fail to perceive that physiognomical mark of a cold stage at some period of the day, which I have so often pointed out; as the fever of this disorder is generally, but not invariably, a quotidian; while in many cases, that stage, and even a hot fit also, are distinctly marked. This is true even of the slightest varieties and of the most chronic or most habitual and repeated ones: while in the severer acute disease, the fever is strongly marked as a remitting, or even as a continuous one; as continuous at least as in simple remittent; though, under types more distant than quotidian, I have met few of a severe character; those of a tertian form which have occurred to me having been most commonly mild, or else chronic cases.

"Such a febrile state is often, as usual, paroxysmal while the inflammation is permanent; but this is no cause for surprise, as the same happens in the rheumatism of the face, in that of the intercostal muscles, and in other analogous affections, and also not unfrequently in the purer Neuralgiæ, as in sciatica. Supposing this febrile state to be present or not, or to be more or less distinct, there is frequently a separate neuralgic pain accompanying the inflammation, throughout the disease, or occasionally, for some days only; being the hemicrania, or the pain in the temple, or in the eyebrow, which I formerly noticed as sometimes preceding the attack; and being sometimes an extremely severe Neuralgia. This is the symptom which forms that criterion for the disease which ought never to be mistaken, though in reality rarely attended to; and it is so marked and so discriminating, that to pass it without notice, or, when present, to treat the disease as common ophthalmia, is unpardonable in even the most mechanical practitioner." 269.

In the greater number of cases, only one eye is affected, though sometimes both may be the the seat of the complaint—at least in succession or alternately. This is a highly discriminating feature in the complaint, and should always excite suspicion as to the nature of the ophthalmia. Another remarkable peculiarity is the disposition to migration or metastasis. When this occurs, the original inflammation, however severe, sometimes disappears entirely—even within a few hours, so that its former existence could scarcely be suspected—the new one attaining to its almost violence in a time as short—often to disappear in its turn. Our author naturally expresses his surprise that so extradinary a fact as this should not have, long ago, attracted suspicion, since nothing analogous to it occurs in other diseases, with the exception of gout. Like other neuralgiæ and intermittents, it may be limited to one attack—or, having occurred once, it may be liable to relapse repeatedly. Like all other diseases, it often disappears spontaneously, while the remedies gain a credit to which they are not entitled.

"As to the theory of neuralgic ophthalmia, if it is not very evident, it is at least as intelligible as that of any other form of neuralgic inflammation. Of the true, the ultimate theory, of any inflammation, we know absolutely nothing; since, after all that has been written on this subject, we have but so many words; one term substituted for another. If all that we can know as yet of the cause of neuralgic inflammation is no better, it is at least not worse; while we are in no want of analogies, or the difficulty, such as it is, is countenanced by parallel difficulties." 273.

The author next proceeds to the narrative of two or three cases—because such narratives often excite an attention that would not otherwise be commanded by the most laboured general description.

"In the first case that I shall notice, which was not under my own care, but under that of a medical friend particularly interested in the result, the original disorder or attack was a periodical and daily rheumatism in the neck, remarkably well defined. After this had lasted a week, there occurred suddenly a pain in the eye, with inflammation of a very violent character. I entertain no doubt that the intermittent form remained either in the febrile symptoms or in the pain about the eye: the violence and acuteness of this being a very discriminating mark, as it does not happen in any other ophthalmia. But as this physician had never considered the rheumatism in question as a disorder belonging to intermittent or Neuralgia, he had paid no attention to the symptoms, and was therefore unable to describe the case more minutely. Far less had he ever considered any ophthalmia to be a disease of this nature; and the patient was therefore treated in the usual manner, with the unfortunate termination in blindness, from the formation of a pustule in the cornea. I have given this case as I received it from the physician himself, so that others may judge; while the suddenness and violence of the attack of inflammation, the accompanying severe pain, and the previous periodical rheumatism, leave no doubt in my own mind respecting the nature of the disease." 275.

In the following case our author attended with a most learned and talented physician—not a routine practitioner, and who was yet misled—showing the necessity for a new investigation of this class of complaints.

Case 2. "In this instance, and where the personal interest was as great, the patient was suddenly attacked in the evening with an inflammation of one eye, which ceased by the following morning. On the next evening, there was no inflammation; but it returned on the alternate one, and in the other eye, terminating similarly on the following morning. As I chanced to reside in the house, I could perceive and point out the tertian cold stage; this being evidently a tertian intermittent, or rather, that disorder doubled, (not double tertian,) inasmuch as the succeeding fits were different. Nothing was done; and as it was wished to watch the natural progress of the disorder, which, after lasting thus about ten days, or displaying six different alternations of this nature, became a decided double tertian; the inflammation returning every evening in the alternate eyes, to terminate in the morning. And in this instance, the neuralgic intermittent pain occurred in each eyebrow alternately, accompanying the inflammation; so as to produce a case as strongly marked as is easily conceived. I shall only add that it was afterwards cured by bark; but that I did not even then succeed in producing a free assent to opinions which, probably, I might even now have kept to myself, for all the impression they are likely to make for these twenty years to come; when those who have been most active in opposition, will be among the first to recollect that all this was long ago their own opinions." 280.

Case 3. In the last case which our author notices, the patient had been for some time afflicted with a general or diffused periodical rheumatism, followed at length by inflammation of both eyes, the original disease continuing. The disease was of such long standing that a cure was hopeless. Both pupils were so contracted that a pin could with difficulty have passed through one, the other being absolutely closed.

"By the patient's account, he had been seized with occasional fits of blindness during the progress of the disease, arising doubtless from the contraction of the pupil, while I have as little doubt that the iris was affected by the neuralgic inflammation. I could not obtain a more minute account of the case, as he was a man in low life, and had no medical attendant; but enough remained to prove that the judgment I had formed was correct. For, at this time, though one eye seemed hopelessly obstructed, the other was occasionally of use; while the patient observed, and without inquiry, or leading question, that whenever the general fits of rheumatism in the limbs come on, the eye became blind, from the closing of the pupil, recovering again when those ceased. I need only add, that as the disease had at this time lasted many years, the fits were no longer as regular as they had originally been, as happens in all chronic intermittent disorders; and as the contraction of the pupil accompanied them then accurately, it is probable this had done so from the commencement, though the exact particulars had been forgotten." 281.

Dr. M. suggests, that amaurosis is sometimes dependent on a neuralgic affection, and informs us that, while his work was in the press, two well marked cases of amaurosis of one eye, produced very pointedly, and within a few weeks, by a neuralgia occupying the external part of the orbit. The gradual paralysis of the nerve, and the total absence of all other affection of the head, or of the corresponding eye, offering evidence as clear as could be desired, of the real source of the disease, and of the truth of the above conjectures."

"I may here introduce a fact which appears to me to bear on this question, and on the original one, viz. the power in this respect, of the inflammatory diseases; but of the value of which I shall suffer others to judge. This fact is, that in the Mediterranean, and in the same districts where that ophthalmia which I suppose to be the disorder under review is common, *nyctalopia*, as it is there improperly called, or in reality, the loss of vision after sunset, is a very common affection: while I need not remark that this is, in fact, a modified amaurosis, or a partially, or moderately paralytic affection of the retina or nerve." 289.

After a philippic against the sub-divisions of the medical art into oculists, aurists, dentists, &c. and still more against spine, liver, and stomach doctors, our author enters on a consideration of the treatment of rheumatic ophthalmia. There can be no doubt that, while this inflammation was or is confounded with common ophthalmia, and the usual depletory-measures employed, the practice will be not only unsuccessful, but even injurious. The fundamental error consists in looking at the disease as a purely local inflammation, and over-looking "the constitutional affection which belongs to every neuralgia." Mr. Wardrop is acknowledged to have perceived the difference between the rheumatic and the common ophthalmia, though not the true nature or cause of the former. Mr. W. varied the treatment, and with success. The chronic cases of ophthalmia too, which form the overwhelming majority, are still confounded with common inflammation, and consequently maltreated. The bark has been used either empirically, or at the end of treatment conducted on opposite principles.

Dr. M. has already said, that in all intermittent and neuralgic diseases, the evacuating and debilitating system is pernicious—more especially blood-letting, both general and local. He does not deny, however, that in some cases of intermittent and remittent fevers, moderate depletion, at the beginning, may be useful.

"Thus it is in this opthalmia, when violent, and particularly on the first attack; since the effect may often be to reduce the local disease which threatens local injury; while, though that remedy be really pernicious as it regards the constitutional affection, inasmuch as it commonly renders that more obstinate, the evil from this cause would be as nothing compared to the possibly impending local evil. It is plain therefore that I do not absolutely exclude blood-letting, both general and local, in this ophthalmia, at least when recent and severe; yet I think it highly essential that the reasons for permitting its use should be duly understood, as I trust they will now be by reverting to what was formerly said on this subject." 298.

The disease, in short, is not to be considered as a purely local inflammation, but as a peculiar disorder connected with and dependent on a constitutional cause, which cause is inconsistent with the depleting system, except in rare cases. In the chronic cases of this ophthalmia, the evacuating system is positively injurious—and the consequences sometimes most serious. Low diet and abstinence from wine are considered by our author among the *lædentia* in this class of complaints. The following case will prove illustrative of this and of several other points under discussion.

"The person in question, an artisan under the patronage and care of an opulent family delighting in physic, was seized with the common neuralgia of the face, occasionally in its more ordinary form, and at other times under that of toothach. I was permitted to cure this by means of arsenic; but after a short time it returned in the temple, and was then followed by a tolerably severe opthalmia, affecting the conjunctiva of the neighbouring eye, and also attacking the iris. Nothing could be better marked than the disorder, as it was attended with a distinct intermittent and quotidian cold stage, and as the neuralgia of the temple was equally regular; while the contraction of the iris was also as periodical, occurring once a day, and lasting a determinate number of hours.

"I attempted of course to explain my views of the character of the disease, while I proposed the method of cure; and with exactly the same success which I have generally had, as well with patients as with my brethren of the profession, for these twenty years and much more; at the manner of which I can now but smile, while I regret the price at which the unfortunate patients have so often purchased this imaginary triumph.

"The patient was therefore sent to an oculist, at that time of high reputation; it having been concluded, as it is still, that neither physician nor surgeon could possibly understand a disease of the eye like the man of experience; such are the ideas attached by the vulgar to a word, which, if their meaning was the true definition of that term, would make the oldest nurse, or the empiric who sees a hundred patients in a day, the best physician; just as he who has manufactured the most tons of Glauber salt and calomel in his life-time, is the most philosophical chemist.

"If out of humanity to the unfortunate patient, I attempted to explain the case to the oculist, the suggestion was received just as I expected; and, from that time, I could but watch, for instruction, the progress of the case. The first effect of local blood-letting, blistering, and topical applications, was a great increase of the inflammation; and as the same means were continued and repeated, the disorder became daily more severe; while, the Neuralgia also increasing in severity and extent, and the intermittent becoming much more strongly marked, it was declared that there was a flow of blood to the head; and so forth. General blood-letting from a vein, together with that from the temporal artery, was therefore adopted and repeated; while after a certain progress in this practice, aided by more topical remedies, more purging, and more low diet, the patient became so ill that he could no longer attend the oculist, and was therefore sent to an hospital. These operations occupied about two months; and if I was, after this, cut off from as frequent a sight of the patient as formerly, I was easily able to ascertain, before this imprisonment, that he was labouring under an inveterate quotidian intermittent, with a Neuralgia that scarcely left any repose, extreme debility with various nervous affections, and a partial fatuity; all of them the effects which I had gradually foretold to his patrons, as any one may foretel them under such practice; while the inflammation was such as apparently to extend to the bottom of the eye, from the excessive and constant pain, and while total blindness on that side had also resulted from the complete closing of the iris.

"In the hospital, all this, in the usual way, justified more bleeding and more of every thing which had already proved so injurious; while the disease persevered without a single feature of alteration, except for the worse, during nearly three months, when the gradually increasing fatuity became a mania, and the patient attempted to destroy himself by cutting his throat. The attempt was however unsuccessful; and after the wound was healed, he was sent home, to be transferred to a lunatic asylum, during which interval, I was enabled for a week or more to see him daily. He was then in a state of melancholy fatuity, rather than of proper mania, while the inflammation continued, but in a comparatively mild state, with occasional headach, of apparently great severity and still periodical, though the state of the intellect prevente any very accurate examination. What was done in the lunatic hospital, I could never discover; but in about two months he died, and, as I understood through his wife, with the eye still in the same condition." 308.

The above case is extremely interesting; and our author avers, that every symptom, as well as the general progress, is that which occurs, in a greater or less degree, not only in this ophthalmia, but in every anomalous intermittent and neuralgia, "wherever the evacuant practice has been pursued."

"Of the topical applications I must observe, that there are even acute cases of this disorder, sufficiently teasing to the patient, and even alarming to timid ones, where the mere local use of stimulants does alone remove the disorder; the constitutional affection in such instances being perhaps trifling, or even, it may be supposed, nothing; or else disappearing spontaneously, or from slender changes of circumstances, as intermittents themselves, equally slight, so often do. In such cases, I know not that any thing is more efficacious than hot water, as hot as it can be endured; while in the chronic relapsing attacks it is often sufficient alone to the cure. In all these cases, acute as well as chronic, persistence is most necessary: but in saying this, I must also remark on a mistaken and injurious practice, not very rare, namely, that of applying ice; while I ought to say, generally, that cold washes of all kinds are either useless or mischievous. In the chronic cases also, especially, very strong metallic solutions, such for example as sulphate of zinc in the proportion of ten grains to the ounce of water, often remove the inflammation; while this particular class of remedies also dissipates the opacities of the cornea, unless caused by pustule or ulceration, or unless very dense, from repeated attacks. No incurable opacity from mere inflammation in this disease, ought in fact to exist: and when it is not prevented or cured, there has been neglect somewhere. Of other applications, opium, both within and without the eye, is often also ulseful: but let me remark here, that its chief, or almost sole value, is when applied on the subsiding of the paroxysm, or during that remission which can always, with care, be discovered: diminishing thus, as in all the neuralgic affections of tender parts, that soreness, or pain, or uneasiness, which persists after the proper paroxysmatic attack has passed away. Thus is also the internal use of opium useful in the same circumstances. As far as this substance is of use as an application in the chronic cases, it must, I think, be classed with the stimulant remedies already mentioned.

"Lastly, in all the modes of this disease, that is, in the chronic ones at all times, and in the acute, whenever the febrile state permits, or when such evacuation as may be judged necessary has been premised, the remedies are those of intermittents and neuralgia; namely, bark, and the tonics, under all those regulations which I need not again discuss; though I ought to remark, that in numerous cases of the long continued and relapsing disease, and in many indeed of the acuter or more severe ones, and even when of some standing, I have found both arsenic and bark eminently successful without any other aids, while rarely failing to cure a new case within even a few days. As usual in all other cases of neuralgia under every variety, the inflammation has been more tantalizing, and the remedies less actively efficacious, as it has been of longer standing and more subjected to a previous course of maltreatment; though I can scarcely, with any effort, recall a case to mind, of whatever character, which was not cured, when the patient's confidence corresponded to my own. These, in reality, are the true remedies of this ophthalmia; a fact which if it had been always known, would have saved thousands from blindness as from suffering; and not only so, but from broken constitutions or even worse evils; since the long persistence of this disorder produces the same effects as the similar duration of any intermittent or any Neuralgia." 318.

To the above remedies must be added good diet and wine, by which alone the disease may sometimes be cured, when protracted by an opposite system. For more minute observations on the remedies, the reader is referred to the general discussion on the treatment of neuralgia.

CHAP. XI.—ON THE CONNEXION BETWEEN NEURALGIA AND INTERMITTENT.

If our author has shown that all the diseases treated of in this Essay do occasionally or often arise from malaria—not, of course, excluding the occasional action of other causes, as cold, &c. it forms a strong proof of a community in the nature of these diseases. The following passage offers an example of this family connexion.

"In this case, the situation was so decidedly subject to Malaria, that scarcely an individual, out of many different families which had resided in it, had escaped intermittent at some period of their stay. In one season, and in one family consisting of twelve or fourteen persons, the following were the effects in as many individuals. One tertian; one double quotidian headach; another tertian; one diseased spleen; in one individual, aged only eighteen, a temporary hemiplegia with obscure quotidian; a second case of palsy in one leg in a person of twenty, with obscure quotidian and symptoms of diseased spleen: a regular Neuralgia of the face, of double tertian type. In a following, distant season, and in some of the same persons, there occurred palsy of the face with imperfect speech, an attack lasting beyond a week, and replaced by quotidian neuralgia (Tic;) a double tertian, common intermittent, terminating in a quotidian, or double tertian, neuralgia; a quotidian with neuralgia in the shin bone; the same patient having had, in a preceding season, a common tertian so obscurely marked, that he was ordered to Italy for a consumption, (a consumption which was cured by two ounces of bark and a change of place to ten miles distance,) and, in a following one, having been attacked again with a double tertian, of which one fit was attended by the neuralgia of the skin and the other by a headach.

"This particular instance, it will be seen, embraces a considerable number of varieties under the two heads of intermittent and neuralgia; while I might even have extended it, by adding what occurred in other seasons, in the same place; among which I might have enumerated an irregular intermittent with neuralgic palpitation of the heart; an acute hepatitis (probably dependent on the same cause;) two instances of diseased spleen; one of neuralgia, with obscure intermittent, in the foot; one of periodical toothach with double quotidian; one of periodical quotidian rheumatism in the arm: one of quotidian with irritability of the bladder: a second, of very severe neuralgia of the heart, replaced and cured by a common quotidian; and one of a periodical general chronic rheumatism, of a most defined type and quotidian character." 324.

Our author has not a doubt, nor have we, that the same cause acting on different persons, produced all these disorders—more especially as the same individuals suffered, in different and subsequent seasons, several of the above mentioned forms of disorder. A remarkable instance is stated, in the person of a gentleman, with whom the author was intimately acquainted for nearly thirty years, during the greater part of which he was harassed with the various forms of chronic intermittent.

"In mere fever, this patient experienced various remittents, together with tertian, double tertian, quotidian, and double quotidian, in different years; and, in the anomalous varieties, what may perhaps be referred to the asthmatica, and to the stranguriosa, and also what may possibly be the nephralgica of Sauvages; together with the emetica, the hysterica, and the soporosa, of the same arrangement. These intermittents also, at different times, were united with, or succeeded to, or were replaced by, periodical and marked general chronic rheumatism, periodical local rheumatism in a limb, and rheumatism of the face, with repeated slight attacks of the ophthalmia of one eye, attended by hemicrania. In simple neuralgia, this patient also experienced that of the face, repeatedly, long relapses of pure hemicrania, clavus, that of the eye, or optic nerve, sciatica, and a similar affection in one radial nerve and in the anterior crural; as, on different occasions, he suffered quotidian intermittent toothach, and the most severe neuralgia of the heart which I have ever witnessed, recurring annually for many years, replacing, once a local periodical rheumatism, and more than once replaced and cured by a quotidian simple intermittent.

"This is probably a rare case of severity and multiplicity, as the case itself was remarkable for its inveterate duration; but I doubt not that it can be paralleled, if not equalled, by the experience of others. But it is plain that it can be so paralleled, only by taking the same views of these diseases as myself; since, under the present opinions, most of those would have been considered as independent disorders, accidentally meeting in a single subject." 329.

To these two branches of evidence, community of cause—co-existence and interchangeableness—our author adds another, the effects (whether good or bad) of remedies. Throughout the whole catalogue, it is to the same class or system of remedies that we must look for the cure—and these are all remedies acting on the constitution—a fact that strongly confirms the view which our author has taken. Even when the remedies are not medicines, as change of air, mental impressions, &c. the same argument holds good. They act on the whole system, and thereby relieve the local neuralgic disease. Again, the same system of treatment which is injurious in one of these diseases is injurious in all the rest of the class—and the *same kind* of evil consequences arises in all as in one.

"Whether it be an intermittent of the most ordinary character, whether it be an anomalous one, or should it be any of all the neuralgic diseases, however apparently local and simple, it is the constitution, or the system at large, which suffers from that improper treatment, and in the same manner; while as far as the local, or even the general disease may suffer, it is, in all, also, in the same manner; namely, that they become confirmed or aggravated, or acquire a tendency to recur when they would otherwise have terminated." 333.

The following is an abstract of all that precedes, and in the words of the author.

"The abstract in question is therefore the following, passing over the community of remittent and intermittent fevers, as an admitted fact. Intermittent fevers arise from malaria, certainly, as principally, and from mere cold possibly; but are renewable by mere cold, when once they have existed.

"They are often attended by peculiar local symptoms producing the anomalous varieties, while, when the febrile state is slight or obscure, these local disorders appear to be the chief disease.

"Such local disorders are either affections of the nervous system, or of an inflammatory character, and they have been fully described.

"The same intermittent fevers, more or less distinct, are accompanied by all the neuralgiæ that have been described, whether these consist of simple pain, or are attended by inflammation; and when the febrile state is slight or obscure, those local affections appear to form the chief disease.

"If intermittent fevers alternate with all the anomalous local symptoms or diseases, so do they with all the neuralgic diseases: and in such cases, the supervention of one is the removal of the other.

"Thus also, all those local diseases, including all the neuralgiæ, alternate with each other; or the appearance of one form is the cure of a preceding one.

"Many of the neuralgiæ will exist almost simultaneously, or else in alternating paroxysms; these having any of the types of intermittent.

"They also exist in alternating paroxysms with simple intermittent: or a particular doubled type will consist alternately of a paroxysm of pure fever and a paroxysm of neuralgia.

"The same individual, under a persevering intermittent, will experience many of the anomalous forms of that disease, and also many of the neuralgic diseases, in alternation or succession, or else in union; and, in such cases, the type, and the hour of recurrence, will be the same for all the forms, even through a long course of years.

"Malaria will produce the neuralgic diseases directly, as, probably, will mere cold; but they are renewable by mere cold when once they have existed; and in these cases, though the intermittent fever is probably always present, it may be so slight as to be overlooked. In this, the first cause, neuralgia, in all its forms, resembles intermittent: but it differs, inasmuch as it can be excited by direct injury of a nerve; a difference however which is of no moment as to the general identity, because we know of no means of thus injuring the entire nervous system so as to produce general intermittent.

"The same malaria, in the same spot, acting on different individuals at the same time, will produce either intermittent or neuralgia, and every form of each.

"Intermittent and neuralgia, in all their forms, are cured by the same remedies, and injured by the same wrong treatment; and those remedies are constitutional ones, whether the diseases be local or general; while, very particularly, the local and the general diseases both, are cured by operations on the imagination.

"The conspicuously wrong treatment for all of these diseases, whether neuralgiæ or intermittents, consists in the debilitating practice, as the right treatment is found in what is esteemed the reverse; and whatever be the disease, be it local or general, when that practice is pushed so far as to become injurious, the injury is always of the same character, affecting the entire nervous system." 337.

We must pass over a short chapter, (XII.) on certain consequences of intermittent and neuralgia, in order to devote more of our remaining space to—

CHAP. XIII.—ON THE CURE OF NEURALGIA IN GENERAL.

If our author be right in considering neuralgia as a disease dependent on a constitutional cause, however prominent may be the local symptoms—in short, if it be a mode of intermittent fever, or fundamentally of the same nature, it is natural that the same system of treatment should be enjoined. To this he was led, more than twenty years ago, from theory, and is now confirmed in the propriety of the system by practice and observation. This plan of treatment has never failed him in recent cases, and has often succeeded in those which were of long standing. In this chapter, our author has been unavoidably led into considerable repetition, as the principles of cure, and even many of the individual remedies, have been broached or detailed in preceding chapters, more especially when treating of intermittent. It will not be necessary for us, however, to go much into the minutiæ of the treatment; since it was of infinitely more importance to connect the etiology and pathology of these varieties of disease, than to dwell on their management when once recognised.

The first remark, and it is a very important one, is this—that the neuralgiæ often disappear without medicines, by a spontaneous effort of the constitution—while they are also truly cured by circumstances that are not noticed, and to which credit is not given. This explains the reputation which has been gained by particular modes of cure, which were, in reality, either nugatory or injurious in themselves. Hence improper practices are continued from mistaken observation. Particular periods of life, as the climacteric in males, and cessation of the catamenia in females, often root out old and inveterate neuralgic affections, that had defied all remedies. The most frequent of the real, though little observed causes of cure, however, will be found in change of air, and of general habits of life—which, by the bye, is a direct remedy of great power, though often recommended to the patient when the practitioner is tired out with fruitless attendance. The effects of moral impressions are underrated and ridiculed. A change of physicians, or the acquisition of a new and strong confidence in a new and reputed person, often effects a cure, where the remedies prescribed had little or nothing to do in the business.

"Hence an actual benefit often derived from empirical remedies and empirics, or from physicians of popular if false reputation, or of peculiar, perhaps insolent or coarse manners: an influence extending widely over all the nervous disorders, of which so many occur from the general cause of disease which includes the subjects of this essay." 370.

This, in reality, is the cure by charms. This is the reason why quack medicines, the composition of which, being unknown, is more respected, effect cures, when the same medicines fail in ordinary prescription.

"Hence that universal confidence in substances and formulæ and numbers and quantity, and hence especially that enormous consumption of empirical remedies; compounds found in every pharmacopœia, but divested of all their virtues under this form, because separated from the mystery and the incantation. The physician who attempts to reason with his patient on the effects and utility of his remedies, pays a most unmerited compliment to human reason: and while he will fail to influence, he will not be very long in discovering that he will shortly have no patients to enlighten or to cure. With the loss of the mystery, the merit is at an end: and he who proves himself to be the true philosopher and physician, is precisely the man who will never be trusted." 371.

This is a melancholy picture, but we fear it is too true. It may account for the immense reputation of a living practitioner, who never reasons or says a civil word to his patients, but drives them from his presence, all having, and all knowing before hand, that they will have the same prescription or box of pills, whatever be the nature of the malady! Dr. M. relates a case of tic douloureux, which he had long treated in vain with arsenic and other remedies, but which instantaneously vanished before the solemn gibberish of an old woman, celebrated for the possession of a charm against toothach.

We know that intermittents are sometimes cured by giving a powerful anodyne just before the expected paroxysm, which breaks the chain, and interrupts the morbid process. The same is sometimes done in neuralgia, and ought not to be neglected, though they are not the real remedies in this class of maladies.

"But the chief and the most energetic remedies in neuralgia, be the form what it may, are the tonics; and of these, as in intermittent, the most efficacious are bark and arsenic. Each, in its class, may stand at the head of a list which it is fruitless to enumerate, since it is so well known to even every druggist; nor need I repeat what relates to the mode of using these, since it is precisely the same as in intermittent fever. That there is any one vegetable tonic more efficacious than bark, or differing in the mode of action, as far as we now know these remedies and their powers, I am inclined to doubt: but not to deny that such do exist, since I consider that we are very far from having exhausted the medicines of the vegetable kingdom; so far, indeed, as rather to be in an absolute infancy of knowledge on this subject.

"While with bark as the type, the physician may command the whole range of astringents, aromatics, and bitters; he is also bound to try one where another fails; and thus may it possibly be discovered, even that what is most efficacious in common intermittent may not be most so in the neuralgiæ, differing as they do in respect to the local action in the latter. But as I can, on this, say nothing of any great value from my own experience, I must be satisfied with having pointed out the leading principle and the road to be followed; as I need also do no more than suggest those combinations, whether of these vegetable substances themselves, or of the same with narcotics, the occasionally superior value of which in intermittent is well known.

"If arsenic be admitted as the type of the metallic remedies, it is equally easy for the physician to command the whole range of these: so well known, that I could add nothing respecting their powers; while I much suspect that very fanciful values have often been attached to some of them, from that common mechanical system which looks more to variety of medicines than to a knowledge of diseases. Much has indeed been lately said respecting the especial value of the carbonate of iron (as it is generally called) in the common neuralgia (tic;) while in reality it has been administered as a merely empirical remedy, and without system. In my own experience, I had resorted to it long before these recommendations, both in intermittent and neuralgia; but without discovering that it possessed any collateral merit above arsenic, while far less generally efficacious as a remedy. But, on all these remedies, I shall be very glad to hear of the experience of others, since I have wanted both temptation and opportunity to do them justice. As to the value of arsenic compared to bark, I can only repeat what I said formerly, that I have found it more generally efficacious in neuralgia, while it has appeared less so in intermittent: often acting almost like a charm on the pain, and even in cases of many years' duration. But on this also I am ready to be corrected; as I am satisfied that the experience of no one individual, even were it far greater than mine has been, is sufficient to decide on subjects of this nature." 377.

Dr. M. makes no distinction, as to treatment, in the different forms of the disease—with the exception of sciatica, in which he has not had much experience. A medical friend, residing in a district noted for this disease, informs our author that he has derived the most marked advantage from this remedy in numerous cases.

When the attacks of intermittent or neuralgia are either very irregular or of long standing, the power of medicine is very limited in breaking the chain of morbid action. A single blood-letting has often rendered a recent intermittent regular, though previously irregular; and Dr. M. suggests, but without having experience on the point, a similar experiment in irregular neuralgia, while he condemns the practice of repeated depletion. Mercury, pushed so as to affect the mouth, will sometimes render agues amenable to tonics, though previously rebellious. The same may be tried in the neuralgiæ, since, in both classes, the glandular viscera are often deranged, and the mercury acts beneficially in correcting such disorders. But as the greater number of cases which present themselves are now chronic, and, consequently inveterate, probably from the wrong treatment employed when they were recent, so the cures will be comparatively few, however judicious the remedies. It is not until the old cases shall have died off, and a generation of the same diseases has arisen under the improved practice, that a fair trial can be given to the latter.

One great cause of neuralgia becoming chronic, is the caprice or impatience of the afflicted. Anxious for a speedy cure, they are led away in succession by name after name, and recommendation after recommendation, the consequence of which is, that no steady system is pursued, and no cure effected. The work, half done by one, is reversed by another, till, at length, the patient is rendered sceptical as to the skill of the practitioner or the potency of medicine.

But the paramount object is to withdraw the patient, if possible, from the operation of the primary causes of the disease. On this account, the locality of his residence should be carefully examined, according to the rules which have been already laid down by the author in his Treatise on Malaria, and of which the reader will find ample analysis in this journal. Without such removal from the sphere of the causes, no permanent cure need be expected. The dread of moisture should ever be in the patient's mind—he should remove to a dry, but not to a cold situation, since cold itself is an exciting cause. The change of scene and air resulting from travelling alone, would often effect the cure, both in agues and the neuralgiæ.

"What remains as to the general treatment, relates to diet. As an intermittent, whether recent or chronic, I have no hesitation in saying that the usual full diet of persons in health, with a rational use of wine, forms an essential aid to the cure; and that it has often proved a cure in itself, when used as replacing the opposite and pernicious system. But I shall not enlarge on this; as the evils arising from low diet are involved in those belonging to the debilitating practice on which, even after all that I have said, I must offer some additional remarks hereafter." 386.

Of the local remedies for neuralgia we need say but little. Dr. M. like Dr. Heberden, found blisters to aggravate the pain, when placed near the nerve affected. What has been called a perpetual blister is still worse, as proving "almost always a positive aggravation, not only of the local disease itself, but of the general irritation and disorder of the system."

"The only local remedy from which I have really seen such advantageous effects as to induce me to recommend it, is the application of steam directed by the usual means of a pipe, to the affected part; while of course, the same reasoning applies, if in a minor degree, to fomentations and hot water. The value of these latter applications, indeed, in rheumatism of the face, in the rheumatic or neuralgic ophthalmia, and in sciatica, has long been known; if, from their too great simplicity, and their not being 'made up in the apothecary's shop,' they are less valued than they deserve. But while I consider the blast of steam as the most effective of all the modifications of this practice, I have often succeeded by means of it, in removing, almost instantaneously, a paroxysm of the severest neuralgia of the face, and, occasionally, so as to put a stop, in the chronic disease, to an entire relapse, which, from all the patient's past experience, was expected to last some weeks." 391.

Cold applied to the part does sometimes give temporary, but never permanent relief. On the contrary, it generally exasperates the subsequent sufferings of the patient.

"Though I have already spoken of the use of narcotics, this is a more convenient place to point out one advantage to be derived from them; a fact which I purposely postponed, on account of its connexion with the useful effects of hot water and steam. As a means of diminishing pain during the painful state, they are nearly useless, unless pushed to such an excess as to stupify the patient; in which case, it is probable, as I already insinuated, that their effects are injurious, while it is easy to comprehend how they ought to be so, by inducing, indirectly, that debility which so prolongs and aggravates all the neuralgiæ. But when the acute state is past, they become useful, as tending to remove that soreness which remains after the chief pain has ceased, and also by reducing the general irritation which has been excited by it. Thus also they sometimes act usefully, even as local applications, at least to sensible parts; and it is probably on this principle chiefly, that they are of advantage in the neuralgic inflammation of the eye." 394.

Dr. M. next adverts to the lædentia, and satirises, with no small degree of force, the once celebrated practice of dividing the nerve in neuralgia; but as that practice is now laid in the "Tomb of the Capulets," we need not trouble our readers or ourselves on that point. The use or rather abuse of excessive purgation is next denounced by our author, and not without reason. Low diet, of course, comes in for its share of censure, and, as far as neuralgia is concerned, we have no fault to find with our author's strictures. But when he comes to ridicule the plan of abstemious living in dyspeptic complaints, he goes beyond his depth, and proves to those who have infinitely more experience than himself, that he knows nothing about the matter. This is the misery of having a hobby-horse. A man hits upon one good idea or thing; but he is not content with making that idea or thing useful to the world—he must push it to extremes, and endeavour to make it the "universal good." Dr. Macculloch must be well aware that no medical journal has done him so much justice as ours; and that we have proclaimed his merits through every region of the earth, which "the rising or the setting sun surveys." He is too sensible not to know that our praise is the more valuable in proportion to the impartiality which we display towards his failings—at least what we consider his failings. The following case, which we shall give in Dr. M.'s own words, does not at all support his anathema against *abstinence* in dyspepsia, though it is brought forward by him as a "COUP DE GRACE" to that system.

"This unfortunate philosopher had been long subject to the usual dyspeptic and nervous symptoms of studious men, and was of a sallow and emaciated complexion; appearing, in familiar language, to be far more in want of additional blood than of its abstraction, while his disorder was continuously aggravated by a system of low diet, adopted on the same mistaken views. Passing every day with him, in company with an English physician, it was easy to watch that over which we had no control; as there would also have been no propriety in attempting to oppose 'the best advice in Paris.' Headach was, as usual, one of the occasional symptoms; and on one unfortunate day he was induced to send for his surgical friend, by whom he was immediately bled. The headach, on the following day, continued, or rather returned, as it had formerly done, but with increased confusion of thought; the pulse and all else indicating, to the English physicians in question, increase of general debility, and compelling us at length to offer advice, which was however opposed by the usual arguments. A second blood-letting of course took place; and the consequence was that he became, but only in the night, partially delirious; a result easily explained, in its very limitation. It was then determined in full consultation, that there was inflammation of the brain, to the exceeding surprise, not without remonstrances, of the two English physicians; and, consequently, with the addition of blisters, shaving the head, and ice, another blood-letting was ordered and practised. The delirium then increased, while the pulse became feeble enough, as might have been supposed, to have made any man reflect; but as this did not happen, or rather as the reflections took the opposite course, the practice was persevered in, and on the following day the patient died: leaving the physicians, doubtless, convinced, as usual, that he had not lost blood enough. Such is a French case; but it would be easy to give no small number of parallels from English practice; and should it make no impression at present, the day will come round again when its value as well as its nature will be understood." 403.

Doubtless there might be many cases collected on both sides of the channel, where sanguineous depletion has been carried too far—and where irritation is mistaken for inflammation. This is the great source of error. Where inflammation actually exists, there cannot be very much mischief done by taking away a little more blood than is necessary. But where the *neuroses* are treated as *phlogoses*, which was the case with the unfortunate gentleman in Paris, then indeed the havoc of constitution is tremendous, and life itself is often sacrificed. With the following specimen of our author's sarcastic strictures on physicians and physic, we shall close this article.

"It were well indeed if not only ruined constitutions, but even death itself, were not the frequent, the almost daily result of physic thus misapplied in all the analogous and parallel cases, as also in some others; the produce of a combination of system, fashion, and ignorance, which renders physicians and physic the just terror at present of all those who can see and distinguish. It is difficult to speak without high indignation as well as horror, of what we thus daily witness: to suppress the former is impossible, when our own, perhaps dearest friends, have thus been destroyed: and well now, perhaps, will he decide, who, like Napoleon, resolves to exclude this art and its professors entirely; for, on the arithmetical average, he will assuredly be far on the side of security. It is but to open our eyes to see the truth of this every day; while if it is over the ruined health, or the life, of females that we shall most often have occasion to grieve, from the obvious reason that in them the nervous affections thus mistaken and maltreated, chiefly abound, or are chiefly brought before physicians, so has there been a rapid increase of the evil, from the numbers who, returning from a continental residence with the consequences of marsh fever which I have so often described, have been subjected to this, truly mortal as well as mistaken treatment." 421.

The last chapter in the work is one of a different cast from the others. Having terminated his Essay when his evidence was exhausted, and his induction carried as far as it could safely go, Dr. M. ventures on a chapter of "conjectures respecting the condition of the nerves and nervous system in intermittent and neuralgic diseases." These conjectures are ingenious, and some of them plausible; but we have no space left for samples of them here. We part from our author with feelings of much respect and esteem—believing that he has contributed much more to the advancement of our science than many who have held their heads much higher in the republic of medicine.

From the Medico-Chirurgical Review.

ILLUSTRATIONS OF THE DISEASES OF THE BREAST. By Sir Astley Cooper, Bart. F. R. S. Sergeant-Surgeon to His Majesty—Consulting Surgeon of Guy's Hospital, &c. &c. In two Parts—Part I. Quarto, pp. 89, with nine beautifully-coloured Plates, containing numerous Figures. Longman and Co. Feb. 1829.

When we recollect that hardly a ten-millionth part of the actual and useful experience of the profession is transmitted to posterity, or passes beyond the individual who first acquired it—when we reflect how very few indeed of those who honestly record what they know, have yet the gift of accurate perception, and the power of legitimate deduction, we may, or at least we should, be grateful to those eminent men in our profession, who, having passed a long period in unlimited practice, employ and amuse the leisure hours of mature age, in faithfully perpetuating the fruits of their observation for the benefit of their successors and of mankind at large. Such a man is Sir Astley Cooper. That the tide of fame and fortune which rolled upon him for a quarter of a century, till he was obliged to fly from it, should call up a moderate quantum of envy, is just as natural, nay, is as physically certain, as that the meridian sun should draw forth a halo of exhalations from a marshy soil. That Sir Astley Cooper is a pattern of infallibility—a genius of universal acquirment—a prodigy of learning—in short, an "admirable Creighton" of the age or of the profession, we are very far from asserting. There have been no such perfect characters of late, even among those who satirize the author of the volume before us. But we look upon Sir Astley as a man endowed with very good natural capacity—as possessing great zeal in the prosecution of surgical science—unequalled physical powers—assiduous observation—and what are better (in these days) than brilliant genius or superlative talent,—HONESTY and VERACITY! The clinical facts and practical precepts of Sir Astley Cooper, will be quoted and acted upon, long after the marble monument erected over his mortal remains shall have been mouldered into dust by the invisible waves of TIME, that "Edax rerum," beneath which all material fabrics must fall.

It is not generally known, but it will ultimately be made patent, that throughout a professional experience, unequalled in any age or country, the author of the volume before us has constantly employed most able artists to make accurate drawings of all important morbid structures which presented themselves to his view, or with the living symptoms of which he became acquainted—and this independently of preserving a great proportion of the said morbid structures in spirits. The consequence is, that Sir Astley Cooper possesses a collection of drawings infinitely surpassing that of any other surgeon in the profession. To make these available and useful to his brethren, through the medium of the press, is at once honourable to the individual, and beneficial to the public. We know not a more enviable occupation, in age, than that of perpetuating, for the good of posterity, the labours of youth. This task our author is now pursuing, while actually in the prime of life, and in the entire possession of every faculty:—in proof of which we shall, at once, proceed to an analytical delineation of the splendid volume before us—as far, at least, as the letter-press is concerned. We regret, indeed, that we cannot convey to our readers an adequate conception of the beauty and fidelity of the plates, which will only enrich the libraries of the more opulent members of the profession. We shall, however, endeavour to diffuse the practical descriptions and precepts of our experienced author over as wide a space as possible, through the instrumentality of the periodical press.

The work is dedicated, in a short but energetic address, to B. Harrison, Esq. Treasurer of Guy's Hospital;—and in the preface Sir A. informs us that he has divided these illustrations of mammary diseases into two parts—the malignant and non-malignant. It is with the latter class that the present volume is occupied. Our author thinks it right to observe, however, that although he has here confined himself to the description of diseases which are not malignant, and which do not arise from a vitiated state of the system, contaminating the parts in their neighbourhood, or even at a distance from their original seat, yet that—

"Some of these swellings, when they have existed long in a dormant state, will have alterations produced in them by changes of the constitution, by which their extirpation may be rendered necessary; for malignancy may be lighted up in them by constitutional disease—by anxiety of mind—and by the cessation of the menstrual secretion."—*Preface.*

The work is divided into ten chapters, which we shall examine seriatim.

CHAP. I.—INTRODUCTORY.

In this chapter our author expatiates on the advantages which may be derived from the examination of morbid structures, and from a comparison of external symptoms with internal appearances.

Although we may not be able to cure some diseases, it is still a great advantage to be able to discriminate the remediable from the irremediable cases—the dangerous from the slight —those requiring the knife from those which do not demand so formidable a resource—and such as admit of a trifling operation from those that call for one of extreme severity.

The female breast is liable to almost all the diseases of other structures, besides some peculiar to itself. Yet, the uninformed surgeon is too apt to chime in with the vulgar opinion, and to confound all swellings of the mamma under the general term of CANCER. An examination of the diseased parts, after operations, shows the great variety which prevails in the nature and appearances of these swellings—and proves that, instead of their being all of one family, many genera of tumours actually exist. Some are the effect of acute, some of chronic inflammation—others of a specific action, malignant or harmless. It is therefore the surgeon's duty to discriminate these differences in the living body—which can only be done by a knowledge of what is revealed in the parts removed by operations, or the bodies of the dead. The following descriptive sketch is in Sir Astley's characteristic style, and is such a faithful copy from nature, that it will be instantly recognised as such, by every surgeon of the least experience.

"I have scarcely witnessed a stronger expression of delight than that which has illuminated the features of a female—perhaps the mother of a large family dependent upon her for protection, education, and support—who, upon consulting a surgeon for some tumour in her bosom, and expecting to hear from him a confirmation of the sentence she had pronounced upon herself, receives, on the contrary, an assurance that her apprehensions are unfounded. Pale and trembling, she enters the surgeon's apartment, and baring her bosom, faintly articulates—Sir, I am come to consult you for a Cancer in my breast;—and when, after a careful examination, the Surgeon states, he has the pleasure of assuring her that the disease is not cancerous—that it has not the character of malignancy—that it is not dangerous, and will not require an operation; the sudden transition from apprehension to joy brightens her countenance with the smile of gratitude; and the happiness of the moment can hardly be exceeded, when she returns with delighted affection to the family, from which she had previously considered herself destined soon to be separated by death, with the alternative only of being saved by a dubious and painful operation." 4.

Our talented author divides mammary diseases into three classes—1mo. those resulting from common inflammation, acute or chronic—2ndo. complaints arising from a peculiar or specific action, but not malignant, or tending to contaminate contiguous structures—3tio. those diseases which are not only founded on local, malignant, and specific actions, but which are connected with a peculiar and unhealthy state of the constitution. By a malignant complaint, our author means a local diseased action, which not only affects the parts in which it is originally situated, but contaminates those contiguous. He considers it as resulting from a morbid state of the constitution, and it is frequently accompanied by a similar disease in other, and even remote parts of the body.

"The first of these classes comprehends the acute inflammation of the organ, as the milk abscess; the chronic inflammation, which remains for a length of time in a state of indolent swelling, and often terminates after a lapse of weeks or months in an indolent abscess; and, thirdly, a lacteal tumour, in which a chronic inflammation is followed by an obstruction in one of the lactiferous tubes, and produces a large lacteal or lactiferous swelling.

"In the second class of diseases of the breast we find several species of tumour, and they are as follow:—

"1st, the Hydatid;—2d, the Chronic Mammary Tumour;—3d, the Ossific;—4th, the Adipose;—5th, Large and Pendulous Breast; 6th, the Scrofulous;—7th, the Irritable Breast;—8th, Ecchymosis of the Breast.

"In the third class we find the two malignant diseases, which consist of the scirrhous and fungous tubercle." 5.

Chap. II.—Effects of Common Inflammation in the Breast.

The symptoms and treatment of acute inflammation in this organ do not differ materially from that in other structures, excepting in the severity of suffering which it produces.

"It is adhesive in the first stage, suppurative in the second, and ulcerative in the third. A firm and sensitive swelling of the whole or part of the mammary gland is produced in the first stage; and the dense cellular or fascial membrane with which it is enveloped, and by which all its parts are united, not easily yielding to the inflammatory swelling, often occasions most excessive suffering. The serous and fibrous portions of the blood are poured into, and fill the interstices of the inflamed structure, and the latter thus produces the solid swelling. To this enlargement succeeds a blush of inflammation upon the surface of the breast; throbbing, pulsatory, and very acute pain follows it; a particular prominence and smoothness are observed at one part of the tumour, with a sense of fluctuation from the presence of matter. The constitution is also highly irritated, which is evinced by the occurrence of shivering, succeeded by heat, and profuse perspiration. Over the most prominent part of the swelling the cuticle separates, ulceration follows in the cutis, and the matter becomes discharged through the aperture thus produced." 8.

The foregoing process requires from ten to twenty days for its completion. Sir A. considers the principal cause of this phlogosis to be the rush of blood to the breast, or "milk-draught," as it is called, when the infant is first put to the bosom. There are many other operative causes, however, as exposure to cold, the efforts of the child, the obstinacy of the nurse in not putting the child early to the breast,—and the too early introduction of stimulating liquors into the stomach of the mother.

"The best mode of treatment in these cases is to use, in the adhesive stage, a lotion of one ounce of spirit of wine, and five ounces of water; or of liquor plumbi dilutus to the part, and to purge the patient, by giving repeated doses of castor oil, or sulphate of magnesia. But if the patient suffer from the cold produced by the evaporation of the spirit, a simple tepid poultice may be substituted for it, occasionally applying leeches to the swelling, still recollecting that the chief dependence is upon purging." 9.

When matter is forming, poppy-fomentations and poultices must be employed—and anodynes should be given to mitigate pain. As to the question, should mammary abscess be opened or suffered to burst? the following is the reply. If the abscess be quick in its progress, anterior in its site, and unattended with severe sufferings, let it take its course. If the abscess be deep-seated—tedious—attended with great pain and much irritative fever, perspiration and insomnolency—discharge the matter by the lancet. But we should not penetrate with this instrument through a thick covering of the abscess, as such an opening would not succeed in establishing a free discharge.

A quick succession of abscesses sometimes takes place in the breast, and leads to very protracted sufferings. Here opium and quinine will be required. Sometimes an abscess is produced at a great depth in the breast, and discharges itself by different apertures, forming sinuses of various extent.

"Now and then a deep-seated abscess forms between the posterior surface of the breast and the ribs, which, when it breaks, leaves a sinus which leads to the ribs. An exfoliation of part of the rib afterwards occurs, occasioning a very protracted suffering; and in these cases, as well as in the former, injecting the diluted acids is the best practice." 11.

These milk-abscesses are not always entirely devoid of danger. Sir A. once attended a lady of very delicate constitution, and who lay-in while under great anxiety of mind, in consequence of her husband being imprisoned. A milk abscess took place—discharged large quantities of matter—and then, instead of healing, the whole breast became excessively swollen—a true fungoid excrescence appeared--and this disease destroyed her life.

If the abscess be small, the child may be put to that breast as well as to the other;—but if the mamma be much involved in disease, the infant should be kept to the sound mamma, while the diseased one should be drawn by the nipple-glass.

"These abscesses are sometimes the result of soreness in the nipples, which appears in three forms:--first, in simple excoriation; secondly, in deep cracks at the junction of the nipple with the areola; and thirdly, in deeper ulceration of the nipple itself, by which a part of it is removed. The suffering from these sores is often sufficiently great to prevent the frequent application of the child to that bosom, which leads to a great accumulation of milk, and to a degree of distention which occasions inflammation. To prevent this, the breast should be drawn; but the sooner the child can be restored to it, the better. The best application to the sore nipple is a solution of borax in water, in the proportion of a drachm of borax, three ounces and a half of water, and half an ounce of spirit of wine. Some use solutions of alum, some the sulphate of zinc, and some the supernatant liquor of a mixture of the liquor calcis with the submuriate of mercury. Also to prevent the nipples from becoming sore, to which many women are extremely subject, it is right to wash them some time before the lying-in with strong brine, which hardens the cuticle, and renders it less prone to ulceration and inflammation." 13.

CHRONIC ABSCESSES.

The abscesses already described usually pass through their stadia in from three to five weeks; but, under chronic inflammation, an abscess is sometimes produced, which, from the slowness of its progress, and the absence of common inflammatory symptoms, is supposed to be a malignant tumour, and to require an operation.

"In proof of this, a woman was sent to me from Sussex who had a tumour in her breast, which I was requested to remove: and when she was seated before me for that purpose, I found, upon examining the swelling with attention, a fluctuation in its centre surrounded by a wall of hardness, with tenderness in the centre upon pressure. I therefore put a lancet into the seat of the fluctuation, to discover the nature of the fluid, and a considerable quantity of purulent matter was discharged through the orifice.

"I was also requested to see an out-patient at Guy's Hospital, who had a swelling in her breast with a fluctuation in the centre, which had existed several months, into which when a lancet was put, a large quantity of matter was discharged. Although there was no discoloration, and the swelling had existed several months, yet I thought it contained matter, from the sense of fluctuation, and from the tenderness the patient expressed upon slight pressure, which would not have been the result if a serous fluid had been collected.

"In similar cases I have seen the operation for removing the swelling begun, and in its progress the knife having accidentally entered the abscess, the Surgeon, by escape of the matter, having been informed of his error, the operation was suspended, and a poultice being applied, the case ended favourably." 15.

As, in these cases, there is generally some fault in constitution, or vitiation of the secretions, the compound calomel-pill should be given at night, and the bark with soda two or three times a day--or the compound infusion of gentian, with soda and rhubarb.

LACTEAL OR LACTIFEROUS SWELLING.

This is so denominated by our author, because he supposes it to arise from a large collection of milk in one of the lactiferous tubes, the result of chronic inflammation in one of these conduits, near the nipple, with closure of its aperture, and obliteration of the canal for an inch or more.

"The patient applies to the Surgeon some time after delivery with a swelling in the breast; unpreceded by the symptoms of abscess, it distinctly fluctuates, and she complains exceedingly of a sense of distention in the part; and when the child is put to the breast to relieve it, the pain and distention are increased by the draught of milk which enters the breast so soon as the child begins to suck. The swelling is confined to one portion of the breast, from the nipple to the circumference of the organ, and it gives a distinct sense of fluctuation. The cutaneous veins are very large, but the part is otherwise undiscoloured. If a lancet be passed into the swelling, several ounces of milk are discharged; and the milk being suffered to rest for a few hours, forms a cream upon its surface. If a slight puncture only be made, the milk be discharged, and the opening suffered to immediately close, the accumulation recommences, and in a short time the same appearances and sufferings are renewed.

"When the distention of the swelling is excessive, it sometimes ulcerates, and discharges the milk which it has contained, by a small aperture at a little distance from the nipple; and the opening so produced often continues through the whole period of suckling, the milk being lost, from the aperture not being received into the child's mouth: and this opening is difficult to heal, until by weaning the child, and by purges, the secretion of milk be entirely checked.

"The treatment which this case requires is as follows:—If the mother be prevailed upon to wean her child, as the secretion of milk will soon cease in this obstructed part as in other parts of the breast, a simple puncture will suffice to relieve the distended tube of the milk which it contains.

"But if the child still continue at the breast, the opening may be made larger, and the milk be suffered to escape at the artificial aperture whilst the child is sucking; thus imitating the natural relief which the ulcerative process sometimes produces, until the secretion of milk ceases, from the weaning of the child, and from purges to the mother." 18.

CHAP. III.—HYDATID DISEASE OF THE BREAST.

There are four species of these swellings—three of which are non-malignant. To the description of *these* our author directs his attention.

1*st Species.*—Simple bags containing serous fluid, and which Sir A. calls *cellulous hydatids.* Symptoms:—The breast gradually swells, being free from pain or tenderness—becomes hard, without fluctuation—enlarges gradually for months or even years, sometimes acquiring great magnitude. Sir A. has seen one breast weighing nine pounds.

"At first the swelling feels entirely solid, so that it bears a great resemblance to a simple chronic enlargement of the breast; but after a great length of time, a fluctuation can at one part be discovered in it, and then the breast begins to increase more quickly; and in several parts similar fluctuations can be detected.

"The cutaneous veins become varicose; but although the breast is immensely enlarged, it still continues almost entirely free from pain: but to this there are exceptions, for some persons feel an unusual heat, and some, as the breast increases, suffer pain in the part and in the shoulder.

"The tumour is extremely moveable upon the pectoral muscle; is very pendulous; and in some cases, the whole of the mammary gland, in others only a small portion of it, becomes involved in the disease.

"At length one of the fluctuating portions of the breast slowly inflames, ulcerates, and discharges a large quantity of serum, or of a fluid having its general character, but of a consistence somewhat more glairy; and the sac being emptied, and the external opening closed, if the fluid be entirely discharged, it is a long time before it re-accumulates; and sometimes the sides of the sac adhere, and the cyst ceases to secrete. In other instances I have known the swelling break, and discharge a mucilaginous fluid mixed with serum; and several of the cells in succession, and at distant periods, pass through the ulcerative process, and form sinuses, which are very difficult to heal." 22.

Except during ulceration, the general health remains undisturbed, and nothing but the apprehension of CANCER would induce the patient to make her case known or submit to an operation. However large the breast becomes, however extensively it ulcerates, however freely it discharges, yet the axillary glands remain free from disease.

Dissection.—"When the swelling, and the breast in which it is situated, are examined, it is found, upon a careful dissection, that the interstices of the glandular structure itself, and the tendinous and cellular tissue connecting it, are in a great measure filled with fibrous matter, poured out by a peculiar species of chronic inflammation; but in some of the interstices a bag is formed, into which a serous or glairy, or sometimes a mucous fluid is secreted, according to the degree of inflammation attending it; and this fluid, from its viscidity, and from the solid effusion which surrounds it, as well as from the cyst being a perfect bag, cannot escape into the surrounding tissues; but by its quantity, its pressure, and by the gradual yielding of the bag, it becomes of very considerable size; and vast numbers of these cysts are found to occupy each part of the breast, producing and supporting a continued but slow irritation, and occasioning an effusion of fibrous matter, by which the breast forms an immense tumour, consisting of solid and fluid matter. Within these bags of fluid, Hydatids, hanging by small stalks, but some, which from their appearance I supposed to be simple cells before I opened them, instead of being entirely hollow, had a cellular tissue within them, in which a fluid was collected, which, although it produced the appearance of cells or Hydatids on the outside, within assumed the character of anasarcous swellings.

"The breast, when not greatly enlarged, is almost entirely filled with cellulous Hydatids: some are produced in clusters, but the greater number are completely distinct from each other; and in those cases in which the breast is but slightly increased, the constitution is but little irritable, and only a slight adhesive inflammation accompanies it." 23.

The size of these cells varies from that of a pin's head to that of a musket-ball, of which an example is seen in the first plate. The cyst containing the fluid is highly vascular, the veins being greatly dilated. This disease, in its first stage, resembles simple chronic inflammation; but is distinguishable from it by the absence of tenderness on pressure, and the good health of the patient—proving it to be an entirely local disease. In the second stage, when fluctuation exists, it may be distinguished by the distinct seats of the fluctuation, and by the absence of tenderness; but the surest criterion is puncture of the bag, when a clear serum will be evacuated, instead of pus. From scirrhous tubercle it is to be discriminated by the absence of those occasional acute darting pains that accompany malignant affection—by the continuance of health—and by the absence of that excessive hardness which characterizes scirrhus. Sir A. has, however, seen a case "where true scirrhus had hydatids connected with it." The tumour was removed, and again returned. It had the usual pain of scirrhus.

"In the treatment of Hydatid disease, no local applications are beneficial, and the constitution requires no attention, because the general health does not suffer from the complaint.

"If only one bag is discovered, and that is of considerable size, it sometimes, if punctured, does not again fill, as will be seen in several of the cases.

"But when the enlargement is excessive—when a multitude of bags are produced—when the weight of the swelling becomes several pounds—when the breast is very pendulous, and drags upon the surrounding parts, and shakes upon every motion—when there is great apprehension, on the part of the patient, of some malignant disease, then the surgeon will be wise in removing it.

"The operation itself is a simple piece of dissection, in which it is the best plan to secure each divided vessel in immediate succession, to prevent any great loss of blood; but it must be confessed that this is not absolutely necessary, as the operation does not require much time in its performance, and the vessels can be compressed by an assistant, whilst the surgeon is removing the tumour; or, if he prefer it, each vessel may be secured in a ligature, as the operation proceeds.

"When the tumour requires removal for this disease, it is necessary to take away all the hardened and swollen parts of the breast, for they have cysts, or cells, formed in them; and if any cyst be suffered to remain, it will still continue to grow, and the remaining part of the breast to form an Hydatid tumour." 26.

It is a great consolation to know that this disease does not contaminate other structures in the neighbourhood. Numerous cases in illustration of the foregoing observations are detailed by our author; but of these we can only notice one or two.

Case VIII.—Lady Hewett, ætat. 60.

In November 1815, Lady H. fell against a chair, and some weeks afterwards felt uneasiness in the right breast, extending to the axilla. In January 1816, she discovered a small tumour in the same breast, just below the nipple. By the middle of the year the tumour was the size of a melon, and she was sent to Harrowgate, where she applied leeches every day for two months—and afterwards every second day till September. Pressure was next employed by means of bandages and machines, but without advantage. The swelling increased, and it was left to nature till November 1817, when it began to undergo a change. It increased quickly and became soft at its upper part, apparently suppurating, but matter did not form, though poultices and fomentations were applied. An operation was then determined on, which our author performed on the 10th of June, 1818.

"The swelling was of great size, weighing nine pounds. It was in part solid; in some parts evidently contained a fluid; and upon the surface of the cyst part there was a slight blue tint. The swelling was moveable, and reached to the upper part of the abdomen. Lady H.'s general health was good.

"The first steps of the operation consisted in making a puncture into the tumour at its most prominent part, and discharging a quantity of serum from it; by which it was at once clear the disease was of the Hydatid kind, and the magnitude of the swelling was lessened.

"An incision was then made across the tumour, a little above its middle, and the flap of the integuments being raised, the upper part of the swelling was detached from the pectoral muscle, and with the handle of the knife the swelling was further separated; and a flap of skin being left below to meet that at the upper part, the operation was then concluded. Its removal was borne with great fortitude. Two arteries of considerable size required to be secured. The integuments were brought together by a single suture, and by adhesive plaster. On the 16th of June the wound was first dressed, and on the 30th Lady H. was quite well." 34.

We understand Lady Hewitt is now in good health at the age of 71. The removed tumour forms the subject of the second plate. A section is made through the tumour, and it is seen to be composed of a solid fibrous material, (coagulable lymph,) in which there are cavities containing hydatids. This is a splendid plate, and highly illustrative of the subject.

Case XII.—Cellulous Hydatids with Scirrhous Tubercle.

This was an unfortunate case. The patient was a Miss S———, of Canterbury, aged 29 years, apparently healthy, but of thin and spare habit. Twelve months prior to consultation she perceived a small swelling in her left breast, attended with a sense of aching on pressure. When she had a cold on her, she experienced a thrilling pain, with darting in the part, and a sense of soreness in the nipple. The swelling increased, together with the pain and tenderness, and, on the 20th November, 1822, she came to London to undergo an operation. The tumour was now very hard, and impressed Sir Astley's mind with the idea of its being a scirrhous tubercle. Still her youth, health, and the fulness of the breasts, induced a hope that it might not be malignant. The operation was performed on Saturday, the 23d November. The tumour was deeply buried in the breast. On the succeeding Tuesday she had a rigour, succeeded by erysipelas, from which she narrowly escaped. Upon dissection of the tumour, it had the appearance of scirrhous tubercle at its upper part, while, at the lower, there were found several cellulous hydatids, as may be seen in the first plate. In about twelve months the disease returned, and the patient ultimately died of deeply ulcerated cancer, in the year 1826.

The second species of hydatid disease in the breast is of a very curious nature, and cannot be quite clearly understood without reference to the plate. The tumour was taken from the breast of Mrs. King, of Charing Cross, and the following graphical description we shall give in the words of the author.

"The breast was, in this case, enlarged, and in the greater part hardened by the effusion of fibrine (coagulable lymph) in lobes into the cellular tissue; but in several parts it contained bags of serum, and formed fluctuating cysts of various sizes. In each of these cells there hung a cluster of swellings, like polypi, supported by a small stalk; and the little pendulous projections appeared to float in the fluid which had been produced around them in the different cysts.

"Many Hydatids were found in a detached state, both in the fluid within the bags, and in the solid effusion in the breast; and taking the whole tumour, vast numbers of them had been formed in it.

"Their size varied, but the largest did not much exceed that of a barley-corn, the figure of which they assumed.

"In general they were of an oval form, or I ought to say oviform, as they were larger at one end than the other.

"When opened, they were found to be composed of numerous lamellæ, like the crystalline humour of the eye, or like the layers in the onion, which could be readily peeled from each other.

"When removed from the breast, they had a pearly appearance, and the laminated character of pearl internally.

"The cyst in which they were contained was a perfect bag, and it was composed internally of a membrane which was highly vascular, like other secreting surfaces; and the solid part surrounding the cyst had a greater number of vessels near the bag than at a remote distance from it; but the whole of the diseased structure was endowed with great vascularity, as will be seen in the plate.

"Upon examining Plate the 4th, seven of these bags will be seen with clusters of pendulous tumours growing in them, connected by the stalks, which are delineated in Plate the 3d, and which contains sections from the same breast. Single Hydatids will be seen in the diseased solid structure, as well as cells containing a number of these bodies; and in one the cell is emptied, to show its vascularity.

"It is doubtful if these structures are not of the nature of globular Hydatids, (which is the next I shall describe,) and which have perished from the pressure of the solid matter with which they are surrounded; or whether they are productions, or secretions of the arteries of the part: but the determination of this point must be left to future observation and diagnosis." 42.

In its external characters this disease resembles the first species described—the absence of tenderness common to both, will distinguish it from the simple chronic disease of the breast. From the former species of hydatid disease it cannot be discriminated. Extirpation is the only mode of relief; for no constitutional remedy can check the progress of the disease. A puncture of the cyst gives temporary relief—but the extirpation is free from danger, and by it the patient's mind is secured from future apprehension.

"Mrs. King, of Charing Cross, ætat. 58, had an enormous enlargement of her left breast, which she first discovered fourteen years ago, and then supposed it arose from a blow. When she first observed it, its size was that of a marble; it felt hard, and was unattended with pain.

"It appeared to be buried in the substance of the breast, and was not very moveable in the glandular structure. It increased gradually until two years ago, by which time it had acquired the size of a melon. At that period it seemed to increase suddenly, and to grow faster than before; but it was still unattended with pain, and her general health did not appear to suffer.

"Last Christmas it again suddenly increased; but was still devoid of any painful sensations, excepting that sometimes when she had a cold, she felt a slight uneasiness in the part.

"On the 30th of September, 1822, I first saw her, and the tumour then measured thirty-five inches in circumference; in the greater part it was solid, but in other parts it was soft and fluctuating, and one bag evidently contained a large quantity of fluid.

"The solid portion of the tumour was placed at its upper part; the fluid occupied the lower part of the swelling. Her general health was good, but she suffered much from its weight drawing down the skin and pectoral muscle, and putting the nerves exceedingly upon the stretch.

"On the 1st of October I removed the tumour in the presence of Mr. Key, of Guy's Hospital, and Mr. Lavies, a Surgeon in Westminster.

"The large vessels, divided in the operation, were immediately secured, or compressed by an assistant as soon as divided, so as to prevent any loss of blood in the operation.

"The wound, when dressed on the seventh day, appeared healthy. The irritative fever consequent upon the operation was very slight, and she recovered without any untoward circumstances." 45.

Third Species of Hydatid.

This is the animal or globular hydatid, consisting of a bag containing a fluid, having no vascular connexion with surrounding parts, and producing within its interior a multitude of bags similar to itself. There are few parts of the body in which hydatids have not been found, but the liver, ovaria, brain and cellular structure in the lower part of the abdomen, are the most frequent seats of this parasite animal.

In the human breast the hydatid is contained in a cyst, formed (so says our author) by the adhesive process—"for, wherever it is deposited, it excites irritation, and becomes surrounded and encased by an effusion of fibrine which is highly vascular, and its internal and secreting surface is directly applied to that of the hydatid, a slight moisture existing between them, they having no vascular connexion." In the mamma Sir Astley has only seen these hydatids exist singly, but in other parts of the body multiplied. The following anatomical notices accord with the observations of Rhudolphi, Laennec, and other modern anatomists.

"It has no opening or inlet, so that it must derive its nourishment by absorption from its external surface. It is composed of two coats; the external is of considerable density, and if any opaque body be placed behind it, it has the shining appearance of mother of pearl, and reflects the rays of light from its surface.

"It possesses a considerable share of elasticity, and rolls itself up when it is broken.

"This external layer is lined by a very delicate internal membrane, which appears to be its uterus; for from its interior a multitude of small Hydatids grow, which at first adhere to the membrane, but afterwards become detached, from its falling into the fluid which the Hydatid contains.

"If therefore the fluid contents of the Hydatid be collected in a glass, an immense number of small Hydatids will be discovered floating in them.

"Each of these small bags becomes in its turn a parent Hydatid, producing young upon its internal surface, in a similar manner to the parent cyst.

"I am induced to believe them to be distinct animals; first, because they have an existence and growth of their own, having no vascular connexion with the part in which they are found, but being only incased and surrounded by a vascular and secreting cyst.

"Secondly, because they have the power of producing upon their interior surface their own species.

"Thirdly, that in the brain of sheep a similar bag is found, which, for several hours after the sheep has been killed, if it be put into warm water, has a distinct and very considerable vermicular motion; and fourthly, because on the surface of the abdominal viscera, and sometimes in their interior, an Hydatid is found with a mouth and neck added to it; and consequently receives its food through the mouth, like other animals.

"The globular Hydatid, therefore, may be considered, as to its mode of nourishment, the link in the creation between the animal and vegetable, as it receives its nutriment by absorption, as the vegetable does; but the tænia hydatigina, as it is called, which has a mouth, is a perfect animal, with respect to the manner of its nutrition.

"The Hydatid is supposed to be deposited in the structure in which it grows, carried there by the blood. Into whatever part it is thrown, it excites irritation, and becomes enclosed by an adhesive process, and which forms the cyst in which it is enveloped; but their origin is obscure, and the opinions respecting their deposition hypothetical.

"The parent Hydatid is supported by a secretion from the internal surface of the cyst in which it is found; but the small Hydatids in it are probably nourished by the fluid which the parent Hydatid contains, so soon as they drop from, and cease to be connected with the parent cyst.

When one of these Hydatids is produced in the breast, an inflammation is excited by it, and a wall of fibrine surrounds it; it feels hard, and from the small size of the Hydatid a fluctuation cannot be discovered; but as the hydatid grows, although the quantity of solid matter increases, yet as the fluid in the Hydatid becomes more abundant, a fluctuation in the centre of the tumour may be ultimately perceived.

"Sometimes, when the Hydatid has considerably enlarged, it produces a suppurative inflammation; and when the matter is discharged, either by the lancet or by ulceration, the Hydatid escapes at the opening; and there is in the collection of preparations at St. Thomas's Hospital, an Hydatid which was thus discharged by ulceration from an abscess in the breast." 49.

The treatment of these hydatid tumours consists in making an incision into them, and discharging their contents, after which a simple poultice is sufficient to heal the wound. If the fluid re-accumulates, a seton must be passed into the bag, and the sac will slough. When the fluctuation escapes notice, and the surgeon removes the tumour, suspecting it to be of a scirrhous nature, then the hydatid is found, and the surgeon may confidently assure the patient that she is perfectly free from future danger. The distinguishing marks of this disease are its central fluctuation, its solid circumference, and the absence of tenderness on pressure. The disease is not dangerous prior to the operation, nor is this last followed by any bad consequences. There is a very good plate of the globular Hydatid, furnished by the case of Mrs. Sarah Cornish, for which the author is indebted to Mr. Bayfield, Surgeon.

Chap. IV. Chronic Mammary Tumour.

This disease generally attacks young persons, from the age of 17 to 30 years, the constitution being generally healthy at the time, and during the progress of the disease. Sir Astley considers it as usually the result of sympathy with the uterus—"the excitement of the one organ leading to an increased determination and action in the other, and thus a new growth is produced." It occurs chiefly in single women, or in the married who have had no children.

"The symptoms which accompany this swelling are, that it grows from the surface of the breast rather than from its interior, and it therefore generally appears to be very superficial, excepting if it spring from the posterior surface of the breast, when it is deep-seated, and its peculiar features are less easily discriminated.

"It is an extremely moveable swelling, being chiefly attached by a portion of tendinous aponeurosis to the glandular structure of the breast, rather than buried within the gland; and therefore when moved, it glides over the surface of the breast.

"It begins without pain, and is therefore accidentally observed in the patient's ablutions; and it often continues for many years without exciting pain, or producing inconvenience; but in some cases it does become painful; the uneasy sensation extends to the shoulder, and the patient describes it to be of an aching or rheumatic kind.

"Generally it is not tender to the touch; but I have known it occasionally so, more especially before the patient is unwell at her monthly periods.

"Its growth is extremely slow, for I have removed one which had existed for five years, and which was not larger than a walnut; and I have seen another which had been growing seven years, and was but little larger than the former." 52.

On dissection, the disease is found to be contained in a bag formed of a similar fibro-tendinous structure to that which envelops, as well as occupies the interstices of the glandular part of the breast;—and, in proportion to the magnitude of the tumour does this envelope become more and more distinct. It grows from the glandular structure of the breast, and remains connected with it by a thin process of a similar structure, which is lose and moveable. When laid bare, it appears to be composed of large lobes, like those of the breast; but when more completely unravelled, it is found to be composed of smaller and smaller lobes, similar in form, but differing in magnitude; and, after a short maceration in water the lobes are easily separated. The impression made on the mind during the dissection of the tumour is, that nature has formed an additional portion of breast, composed of similar lobes, but perhaps differing in structure by the absence of lactiferous tubes.

These tumours rarely acquire any considerable magnitude, weighing generally from one to four ounces. Mr. Bond, of Brighton, however, removed one which weighed a pound and a half, a size and weight which it acquired in two years. They are free from malignancy, and may exist many years stationary, disappearing after all. Upon a nice manipular examination of this tumour, it is found to to be lobulated—that is, composed of a number of lobes connected together, but leaving depressions between them, and still preserving this conglomerate character, whatever size it may attain. The swelling might be termed the "lobulated mammary tumour." The general discriminating marks of this disease are as follow:—

"First, the youth of the patient: there are, however, some exceptions to this rule; but as the scirrhous tubercle is rarely seen under thirty years of age, so does this disease seldom happen after thirty.

"Secondly, the absence of pain, but this also is not constantly observed, although it is generally slight, and often the swelling exists many years without it.

"Thirdly, from the malignant diseases of the breast it is distinguished by the general health in this complaint remaining unaffected.

"Fourthly, the slow progress of the swelling, and the number of years it will exist in almost a stationary state.

"Fifthly, in its superficial situation upon the surface of the breast; for it is placed rather on the gland than in it.

"Sixthly, from its extreme mobility.

"Seventhly, above all, it is known from its lobulated feel; being distinctly composed of numerous lobes conglomerated into one mass, with a broken or divided surface.

"The cause of this disease is, as I have stated it to be, sympathetic with the uterus, and it arises from a great determination of blood to the part at certain times; but patients frequently ascribe it to a blow which they recollect to have received, or to the continued pressure of stays; and these circumstances of irritation may become the immediate exciting causes of the tumour, but the tendency to the disease is founded in uterine excitement.

"In the treatment of this complaint, it is right to learn if all the secretions be perfectly performed—if the liver secrete its proper quantity of bile—if the bowels be costive; but, above all, if the menstrual secretion be regularly performed, as regards its time, its quantity, its colour, and its duration.

"If the digestive functions are imperfectly performed, the pil. hyd. sub. comp. at night, and the infus. calumbæ cum infus. rhei. et sodæ carbon. twice in the day will be the best medicine; but if the uterine secretion be defective, the pil. hydrargyri gr. ij. extr. colocynthidas compositi, gr. iij. ft. pilula, given every fourth or fifth night, with different preparations of steel, to be taken two or three times per diem, will be the more appropriate constitutional remedies.

"As to local applications, one of the best is the emp. amm. cum hydrargyro, if the diseased part be completely indolent; or the iodine ointment may be applied by friction upon the swelling, to excite the action of the absorbent vessels.

"But if there be heat or pain in the swelling, evaporating lotions, or simple poultices, are most productive of relief.

"It must be confessed, however, that these swellings are much out of the medical man's power to relieve, either by constitutional or local means; for as they are growths of long continuance, so will a great length of time be required to produce their absorption; and when they disappear, they seem to do so very gradually, from the cessation of that uterine excitement by which they have been produced, or by the part being called upon for its natural secretion of milk.

"But when the patient consults the sur

geon, she is very apprehensive of a cancerous or malignant disposition in the tumour; and he has the power of relieving her mind by the following declarations, which time will verify.

"First that the disease is decidedly not malignant; and therefore if it do not yield to treatment, it is not dangerous to life.

"Secondly, that it does not absolutely require an operation; for it will continue for years, and then gradually disappear.

"Thirdly, if the patient be anxious to have the malady removed, from an apprehension of its becoming malignant, and if she determine to have it done, the operation is of the simplest kind; and it is not followed by any serious symptom, immediately or remotely; nor is the disease liable to recur." 57.

Single women having this disease are very apt to inquire of the surgeon if they may marry. Sir Astley's reply has always been, that marriage would be beneficial. This answer may also be given to the future husband, if consulted by him, which is sometimes the case. The disease often disappears during lactation, and does not prevent pregnancy. Numerous cases are detailed by our author, in illustration of the description, pathology, and surgical anatomy here laid down, and for which we must refer to the work.

Chap. V.—The Cartilaginous and Ossific Tumour.

In chronic and specific inflammations of the mamma, a gelatine is sometimes effused, resembling that which supplies the bones in the fœtus, and parts of the bones in infants. This gelatine becomes vascular—ultimately resembles cartilage—and forms a nidus for bone. One case is detailed in illustration of this disease, of which a plate is also given. The following is the case.

"Mary Farmer, aged 32 years, applied to me for a swelling in her breast, which she had observed for fourteen years.

"The pain in it was very severe; the skin which covered it felt very warm when compared with the surrounding parts; and it required the constant application of evaporating lotions to moderate its warmth. The tumour was excessively hard, very painful before menstruation, but greatly relieved after it.

"Various applications were tried, *viz.* fomentations, poultices, and stimulating plasters, but they neither disposed it to absorption nor to suppuration; and as all the means employed to disperse it were quite unavailing, she was anxious for its removal.

"The glands in the axilla being free from disease, as the complaint had existed for so long a period, and her general health seemed to be perfectly good, I recommended the operation, as affording the only hope of cure.

"Upon examination of the swelling after its removal, the larger portion of it had the appearance of that cartilage which supplies the place of bone in the young subject: the remaining part was ossific." 65.

Chap. VI.—Adipose Tumour.

Sir Astley has had two occasions to operate for the removal of these unwiedly masses. In the first case, the tumour began at the posterior part of the breast, and grew between the gland and the surface of the pectoral muscle. In the second, all those lobes of fat, which are interspersed between the different portions of the mammary gland, became enlarged, and formed a swelling which, prior to incision being made, seemed to involve the whole of the glandular structure of the breast. But when the operation was performed, the different lobes of adeps which formed the tumour, could be drawn away from the gland itself. One of these cases we shall give in the original.

"Mrs. Smith, of Great Yarmouth, Norfolk, was admitted into Guy's Hospital in August 1805, for an enormous tumour in the left breast: its circumference was thirty-one inches, and its length ten inches and a half. It was removed August the 29th, by making, first, a semicircular incision at the anterior and upper part of the tumour, and then drawing down the swelling; an incision was made along its upper part until the pectoralis muscle was exposed, from which the tumour was afterwards dissected from the upper to the lower part, its own weight drawing the cellular membrane to great extent, so as to render its detachment easy. As the different vessels which supplied it were cut through, the fingers of an assistant were applied upon them, and very little blood was lost in the operation; but in order to complete it, a very large portion of integument, the whole of the breast, and the tumour which was situated behind it, were removed. Several sutures were used to approximate the edges of the skin, which were also brought together by means of adhesive plaster; and the patient soon recovered.

"The tumour, which is preserved in the collection at St. Thomas's Hospital, weighed 14 lbs. 10 ounces." 67.

Chap. VII.—Large and Pendulous Breast.

The glandular structure of the mamma sometimes grows to an enormous size, becoming extremely pendulous, so as to reach the fore part of the abdomen. This is not the effect of relaxation—but an absolute growth of the secreting lobes, enlarged, and occasionally very tender. The most remarkable case of this kind was sent to Dr. Babington, and our author, from Pembrokeshire, the young lady handing to Sir A. the following letter.

"Sir,—I am induced to request your advice in the case of Miss ———, who about three years ago was first affected with an enlargement of the left mamma, which continued increasing; and the right breast then began also to enlarge, until they attained their present dimensions. She is now fifteen years of age, and of good general health: the catamenia appeared about twelve months ago. I was requested to see her last winter, in company with Mr. Gregory, of Milford, and she has taken various emmenagogue medicines and gentle laxatives; and she was enjoined regular exercise and sea-bathing. The catamenia returned at three or four regular intervals, at which time the mammæ considerably decreased in size; but since May last, the periods have been very distant, and the discharge is very small in quantity.

"The mammæ are now of extraordinary dimensions. The circumference of the left is twenty-three inches and a half, and that of the right is twenty-two inches, and they are pendant like a pear, as the neck is comparatively narrow. I cannot perceive any tumour, either in the breast or in the axilla. The skin feels and appears to be natural. Her appetite is good, and the bowels are kept regular by occasional doses of neutral salts. She suffers no pain whatever in either mamma, but she does not appear so lively as girls of her age, but indeed, on the contrary, is heavy and dull. In other respects there is nothing peculiar in this young lady's case.

"I am, Sir, your obedient servant,
"W. D. Jones.

"The local treatment of this case consists in the application of a suspensory bandage from the back of the neck, under each breast, to produce artificial support; and the principle which is to be observed in the constitutional treatment of this malady, is to increase and support the menstrual secretion; and for this purpose the exhibition of different forms of steel united with aloes, will be found the most efficacious medicine.

"The ferrum ammoniatum—the mistura ferri composita—the carbonate of iron, will be the forms of steel which, united with aloes, will be most beneficial; and if the biliary secretions be defective, the pil. hyd. sub. comp., or the hyd. cum creta, will be the best medicines." 71.

Women who have led a life of celibacy to the age of 30 or 35 years, whose menstrual secretion has become very defective, and who are subject to severe fluor albus, are liable to have their breasts enlarged, not pendulous, each lobe of the gland being distinctly felt, moving freely, one on the other. Both breasts are affected; but one generally more than the other, accompanied with occasional pain, especially at the menstrual period, the catamenia being slight, pale, and of short duration. The breast, after being sometime enlarged, begins to waste; and, in a few years, it is in a great degree absorbed. The treatment consists in restoring, if possible, the menstrual secretion by the means already alluded to, and by the use of the warm hip-bath—by the local application of leeches where there is pain, and by the emplastrum ammon. cum hydrarg.

Chap. VIII.—Scrofulous Swelling of the Breast.

In young women who have enlargement of the cervical glands, scrofulous tumours sometimes, though rarely, form in the breasts, unattended by pain—are distinctly circumscribed—very smooth on the surface—and scarcely tender on pressure. They are indolent, varying with the state of the constitution, diminishing as it improves, and increasing as it degenerates. They can only be discriminated from the simple chronic inflammation of the breast by the absence of tenderness, and by the existence of other diseases of a similar kind in the absorbent glands of other parts of the body. They are unattended with danger, never degenerating into malignancy. They require no operation—though our author has seen amputation performed from ignorance of the true nature of the disease.

"The treatment in this case consists in improving the constitution by a warm and dry atmosphere—by an equally regulated temperature—by tepid sea-bathing—by gentle and regular exercise—by animal food of the most digestible kind—by milk—and by a farinaceous diet—a diet which shall nourish without exciting feverish heat, or calling much upon the powers of digestion.

"The best medicines are carbonate of iron and rhubarb; the hyd. cum creta with rhubarb; a grain of blue pill, and two or three grains of quinine; infusion of calumba with rhubarb and soda; for I conclude it will be admitted by every one who deserves the title of a surgeon, that we possess no specific remedy for this disease, but that we are required to assist the digestive powers, make better blood, and convey it to the system by an increased vigour of the constitution.

"Local treatment avails but little: a stimulating plaster or a lotion to the tumour, when the health is improved, may excite the absorbents to remove it." 75.

Chap. IX.—Irritable Tumour of the Breast.

The mamma is liable to become irritable without any perceptible swelling, as well as to form an irritable tumour, composed of a structure unlike that of the gland itself, and apparently of a specific growth. In the great majority of instances it occurs between the ages of 16 and 30 years; and never, as far as our author has observed, before the age of puberty.

"When the complaint affects the glandular structure of the breast, there is scarcely any perceptible swelling, but one or more of its lobes becomes exquisitely tender to the touch; and if it be handled, the pain sometimes continues for several hours. The uneasy sensation is not confined to the breast alone, but it extends to the shoulder and axilla, to the inner side of the elbow, and to the fingers; it also affects that side of the body even to the hip; the patients cannot sleep on that side, and the pain is sometimes so severe as to prevent even their resting on the diseased side; and the weight of the breast in bed in some instances occasions intolerable pain.

"Patients also state that heat and cold frequently succeed each other in the breast; and it would seem the pain resembles that in the tic-douloureux, darting like electricity through the part, and through the neighbouring nerves. When the pain is most severe, the stomach sympathises, and vomiting is produced. The suffering is very much increased prior to menstruation; is somewhat relieved during the period, and decreased after its cessation. There is no external mark of inflammation, as the skin remains undiscoloured.

"In some cases only a small portion of one breast is affected; in others the whole, and not unfrequently both of the breasts.

"This painful state remains for months, and even for years, with little intermission; but it has no malignant tendency: and an operation, where there is no distinct tumour, must be entirely out of contemplation.

"Besides this irritable and painful state of a whole, or part of the breast, a tumour sometimes is found distinctly circumscribed—highly sensitive to the touch—acutely painful at intervals, more especially prior to menstruation—very moveable—often not larger than a pea, seldom exceeding the size of a marble: generally one only exists, but in other cases there are several similar swellings." 78.

Although they continue for years, they vary but little in size. Sir A. has never seen them suppurate—they sometimes disappear spontaneously. Upon dissection they are found to consist of a solid and semi-transparent substance, with fibres interwoven in it, but without any regular distribution. He has not been able to trace any filament of nerve into them. They seem to be productions of the cellular membrane of the part rather than of the glandular structure. The diagnosis is not difficult. The pain—the tenderness to the slightest touch—the suffering which succeeds examination; these distinguish it from the hydatid, the chronic mammary tumour, and the scirrhous and fungous tubercle. The disease is met with in persons of an irritable and nervous temperament, in whom there is excessive irritability of the system, accompanied with diminished power. The menstrual secretion is generally very deficient--in a few cases morbidly copious--very rarely perfectly regular. The fluor albus is a frequent concomitant of this complaint. The patient generally traces the disease to some blow, or injury from pressure on the part. The treatment consists in lessening the irritability of the system—in lulling the local suffering—and in restoring the defective or diminished menstruation. The best local remedy is the application of a plaster composed of equal parts of soap cerate and extract of belladonna; or a poultice with solution of belladonna and bread. Oil-silk worn on the breast, or a hare-skin, or some other fur, by exciting perspiration, aids in soothing and tranquillizing the part. Leeches may be applied when the pain is excessive, but if too frequently used, they induce debility, and increase irritability. As constitutional remedies, calomel, opium, and conium should be given for a time, with an occasional aperient, and then the following is recommended by our author.

℞ Extr. Conii. — Pap. āā. gr. ij. — Stramonii. (e Semin.) gr. ss. Misce fiat pilula bis terve in die sumenda.

The half grain of stramonium is sometimes too strong, and may be diminished. To restore the uterine secretion, Sir A. recommends the carbonas ferri, the ferrum ammoniatum, or the mistura ferri composita, combined with aloes. The hip-bath at 100 or 105° is beneficial. No operation is necessary.

CHAP. X.—ECCHYMOSIS OF THE BREAST.

Allied to the irritable breast is a bruised appearance in this organ, occuring at each menstrual period, and accompanied with exquisite sensibility, pain, and tenderness.

"The symptoms of this complaint are as follow:—It occurs in girls who are in most instances under twenty-two years of age. It is preceded by severe pain in the breast and arm. The extravasation of blood begins a few days before menstruation, and it appears principally in a large spot, as if a severe blow had been inflicted. Smaller and less vivid spots may also be observed in other parts of the breast: it is sometimes a concomitant of an unusually large bosom. The part is exquisitely tender to the touch, and the pain with which it is accompanied, passes down along the inner side of the arm to the ends of the fingers. It disappears a week after menstruation, in some cases; but in others, when it is more severe, it continues until the next time the patient is unwell. It looks like the ecchymosis which often succeeds the application of leeches; or like the extravasation of blood under the skin, which occurs in the arm after bleeding, when the opening in the skin has been smaller than that in the vein.

"It is a curious occurrence, strikingly showing the strong sympathy which subsists between the uterus and breast; for it is evidently the effect of the great determination of blood to the bosom just prior to the period of menstruation; and it indicates excessive irritability of the constitution, as well as the great delicacy and debility of the blood-vessels, which are unable to support this sudden determination which such sympathy produces.

"This complaint is entirely unattended with danger; but being accompanied with diminished, irregular, and sometimes profuse uterine secretion, and by considerable debility and irritability of the constitution, two objects must be kept in view in its treatment:—the one is, by different forms of steel medicines, to increase the quantity, and render regular the menstrual discharge; and the other, to augment the strength of the system, by the infusion of roses with sulphate of quinine.

"As to local treatment, the best application is the liquor ammoniæ acetatis, with spirits of wine, in the proportion of five ounces of the former, and one of the latter."

Several cases are detailed in illustration, but these we need not dwell on.

We have now exhibited a very full analysis of the letter-press of this valuable volume; but the plates constitute, of course, the most important portion of the work, and are admirably executed. Every surgeon of respectability in the profession will place these plates in his library, for constant reference, when the subject of mammary diseases is under his consideration. In respect to the description, pathology, and didactic precepts contained in the letter-press, we hope we have done some service to the great mass of the profession by wide circulation of them in every direction. We shall look with great interest to the second part of the work, embracing cancer and other malignant diseases of the human mamma.

From the Medico-Chirurgical Review.

RESEARCHES INTO THE CAUSES, NATURE, AND TREATMENT OF THE DISEASES OF WARM CLIMATES. By JAMES ANNESLEY, Esq. Two Volumes, 4to. 1827–8.

CHRONIC HEPATITIS, AND ORGANIC DISEASES OF THE LIVER.

Of all the diseases to which Europeans are particularly prone in tropical climates, CHRONIC HEPATITIS is the most interesting to the HOME DEPARTMENT of medicine in the British Isles. When the liver has taken on this form of disease, the invalid generally returns to Europe, where he continues to be, at once, a plague and a profit to every practitioner within his reach during the remainder of his life. As for Cheltenham and Leamington, their very streets are paved with the pagodas that have been purchased in the East at the expense of health in the West! But this is not all. It is suspected—nay, it is truly affirmed, that LIVER DISEASE is transmitted to the offspring of the ANGLO-INDIAN, with as much certainty and facility as pulmonary tubercles, gout, or mania. And why should not the hereditary disposition be transmitted in the one case as well as in the others? No reason to the contrary can be assigned, while observation is in favour of the affirmative side of the question. Considering the prodigious influx of oriental and occidental invalids annually into this country, most of them labouring under chronic disease of the liver, the evil would be most alarming, did not the nature of our cold and gloomy climate check the hereditary propagation of hepatic diseases, in the same way that the bright skies and fervid atmospheres of the Eastern and Western Indies retard the progress, or annul the propensity to pulmonary phthisis. But still the class of maladies under consideration is quite extensive enough to render its investigation a matter of very great importance among all classes of the profession in this country.

Few have had more ample opportunities of seeing the disease under consideration, on a large scale, than the author of the great work now before us; and, therefore, we propose to give a very full account of this portion of the publication, interspersed with original and collected information, wherever we see an opportunity for its introduction.

Chronic inflammation of the liver may occur as a primary disease, or take place as the sequel of acute disease.

"When chronic inflammation takes place primarily, it generally is seated in the internal texture of the organ, and often gives rise to but few local symptoms, and but little constitutional disturbance. But chronic is a term which conveys with it no precise idea, and merely signifies a slow state of inflammatory disorder, presenting every grade, from that state of disease which may be considered as only slightly deviating from the healthy action, and which may continue for a great length of time, giving rise to various organic changes, to that which runs its course rapidly, and terminates, either one way or another, in a very few weeks. When this form of inflammation remains after the more acute phenomena have been subdued, it has generally its seat in the substance of the liver, but not uniformly: it may be seated in the surfaces; for the active inflammation, which has been followed by the effusion of coagulable lymph upon the surface of the organ, and the formation of adhesions between it and adjoining parts, may be, to a certain extent, rekindled, after it has been altogether or nearly extinguished, and the vascular action reinduced may assume a slow and sub-acute form. It should also be recollected, that, although chronic inflammations of the liver may follow upon acute attacks, the latter may also supervene to the former, and actually do so on many occasions, particularly when the patients have been exposed to energetic exciting causes, or to an injudicious regimen and treatment. This should always be kept in mind during the treatment of both acute and chronic forms of inflammation of the liver; for it should be an object of importance with the practitioner to prevent active inflammation from degenerating into chronic, and the chronic from being converted into active disease." 470.

Chronic inflammation of the organ in question generally commences with, and must necessarily be accompanied by, deranged function of the same. The biliary secretion is either depraved in quality, or its flow into the duodenum obstructed. It is seldom in due quantity, though occasionally it seems over-abundant—a phenomenon which our author thinks is owing to a previous impediment to its free egress from the liver. The diminution of the biliary secretion, upon the whole, predominates, as may be inferred from the appearance of the fæces, and the defective state of the digestive and assimilative functions.

As chronic disease of the liver varies, *in grade*, from active inflammation, down to the most trifling deviation from healthy function, we may readily conceive the great variety of symptoms which must present themselves, and the utter impossibility of delineating them all. Add to this, the complication of stomach disorder, intestinal irritation or torpor, nervous derangement, &c. which almost invariably accompanies the hepatic affection!

"The loss of flesh; the dyspeptic symptoms, particularly the slow and painful digestion, accompanied with acid and acrid eructations, flatulency, nausea, and sometimes vomiting, torpid state of the bowels, or dark-coloured, offensive, slimy, greenish-coloured, tenacious, or watery and muddy motions; the frequent calls to stool, and the scanty and morbid state of the evacuations; the dark-coloured and disordered condition of the urine; the distention and oppression at the epigastrium and right hypochondrium; the occasional aching pain and weight in these situations; the uneasiness and pain about the right shoulder or shoulder-blade; the slight acceleration of the pulse towards evening, with an irritable heat, and considerable heat and restlessness through the night; the burning heat of the palms of the hands and soles of the feet in the evening, and chilliness in the morning; the white, foul, and excited tongue; the bitter or disagereable taste of the mouth; the hardened state of the gums; the sallow and tallowy appearance of the countenance, and either yellow or pearly-white colour of the eye; the sickly and leuco-phlegmatic character of the body generally; and the elevation of the shoulders,—are the principal symptoms by which we are guided in determining the existence of chronic inflammation of the internal structure of the liver." 472.

It is when any of the surfaces of the organ are engaged in the inflammatory process, that pain is more complained of. When the *convex* surface is implicated, the pain is more referred to the chest—when the *concave*, to the stomach and bowels. In every case, there should be instituted a careful examination of the parts by the hand and the eye. The manual examination should be conducted with gentleness, and no unnecessary pain excited, lest chronic inflammation may be kindled up into an acute form.

The terminations of chronic hepatitis are various. The greater number of them may be looked upon as advanced stages of the inflammatory state—others merely as organic changes to which this state invariably leads in particular habits and constitutions. The chief organic changes met with in the east, consequent upon chronic inflammation of the liver, are the following:—

"Collections of matter may form in the substance of the organ consequent upon chronic inflammatory action, as well as from the more active state of disease. When the purulent matter is collected into one large abscess, it generally nearly approaches the appearance of abscess consequent upon active inflammation, and will receive attention when the subject of abscess comes specifically under consideration. Not infrequently, however, very minute abscesses are scattered through the substance of the liver, both with and without the appearance of a distinct cyst, the matter collected being of a firm or cheesy consistence, and yellowish white colour. Sometimes this consistent kind of matter does not fill completely the cavity containing it: it seems as if the watery portions of the matter had been removed by absorption, and thus the more consistent part fills imperfectly the cavities in which it is contained. The substance of the organ intervening between the purulent deposits is sometimes more vascular than usual, and of a brick-red colour: and at other times not materially changed from the healthy colour and consistence.

"The liver, in many instances of long-continued and slight inflammatory action, becomes much enlarged, particularly its right lobe. This appears to arise from the deposit of lymph in the interstices of the structure, which deposit becomes dense, and closely resembles an organized substance, most probably from the absorption of its watery portions. The enlargement is often accompanied also with deposits of purulent matter in various parts of the organ, with a friable state of its texture, and a dark-coloured and congested condition of both its internal structure and surfaces: the latter are generally much darker than natural, and often variegated with lighter streaks and small spots.

"When the deposition of lymph in the structure of the liver is attended with greater density of its organization, either partially or generally, the change has been ascribed to a specific organic change; and a true scirrhous condition of the organ has been considered as the result. This state seems to us to be merely the consequence of very slow inflammatory action, with a deposit of organized matter, and an increased consistence of the reticulated or cellular parenchyma of the viscus, and frequently with an effusion of lymph in the granulated tissue composing the greater portion of its internal structure. It seems to us also, that the consistence of the organ met with in cases of chronic disease characterized by enlargement, is more the consequence of the activity of the inflammatory action from which it proceeds, and the habit and constitution of the patient, than any other cause; the organ being more friable and congested, the more acute the previously existing disease,—and more firm and more closely resembling a true scirrhous and semi-cartilaginous state, the more chronic or slow the inflammatory action which had existed.

"Tubercles of various kinds,—some apparently encysted, others without any evident cyst or distinct envelope, and, when divided, presenting either a concentric or radiated texture, varying in consistence from a gristly or cartilaginous state to one of semi-fluidity, occasionally filling completely the cavities in which they are contained, particularly when they approach a state of fluidity, and at other times, when their consistence is greatest, leaving vacuities between their circumference and the parts of the liver surrounding them—are often severally detected in examinations of the more chronic forms of hepatic inflammations. In many cases, the substance of the liver containing these tubercular formations presents little or no evidence of much inflammatory action having existed, at least recently, in the organ. The tuberculated liver is often also enlarged, and occasionally it is much firmer in its texture than usual. When signs of co-existent inflammation of the internal structure are present, there is frequently also greater friability; but this is not uniformly the case. Sometimes the substance of the viscus presents a gristly or cartilaginous appearance, and is lacerated with greater difficulty than usual. Such appearances are chiefly remarked in the most chronic cases.

"In these cases also, more particularly in those addicted to the use of spirituous and intoxicating liquors, the substance of the liver is obscurely tuberculated, of a cheesy consistence and texture, and of a deep nankeen-like colour: it is generally, at the same time, more or less enlarged. In many chronic cases of diseased liver, arising from the above cause, we have found the internal structure of the organ of a parboiled and scabrous appearance, drier and more spongy, than natural, and, when divided by a scalpel, or torn asunder, presenting a more or less pale colour, and great inequality of consistence, small rough eminences being surrounded by soft, grayish, and spongy matter. In some of these cases, the substance of the viscus is of a grayish-brown colour. Conjoined with this condition, the size of the liver is often diminished, its vessels nearly without blood, the hepatic ducts devoid of bile, and the gall-bladder either empty or containing a small quantity of a pale, straw-coloured, watery fluid, scarcely resembling bile. The state of the hepatic vessels, biliary ducts, and gall-bladder, is often also conjoined with scirrhous enlargements, tuberculous disease, with atrophy, and with many of the other very chronic states of the liver now described." 476.

When enlarged and tuberculated, the liver may generally be felt projecting from under the margins of the ribs, especially on the right side; "but such forms of organic change are less frequently observed in India than in Europe." The functions of the organ are always greatly disordered, according to our author's experience, in these cases of tuberculation, and other organic changes. The biliary secretion is diminished, and its colour unhealthy—the digestive and assimilating functions are impaired—the body wastes—there is drowsiness and pain over the eyes—bad taste in the mouth—a tallowy or unhealthy appearance of countenance—irregular condition of the bowels, with pale, morbid, and offensive stools—high-coloured urine—slight evening fever.

In many cases of very chronic hepatitis, the liver becomes *atrophied.* It is extremely difficult to pronounce upon such state, though it may be suspected by the exceeding torpor of the biliary functions, the deficiency of bile, "and the sunk state of the epigastrium and margin of the false ribs, when the patient is in the reclining position." These symptoms, however, cannot be relied upon.

The post-mortem appearances met with in cases of chronic inflammation of the liver are, abscess, and small collections of matter—tubercles—enlargement of the organ and softening of its texture—induration and scirrhous tumours—enlargement with friability, or cartilaginous hardening of structure—a rough, pale, and parboiled-like appearance—a cheesy and tuberculated state of its structure—a spongy and less vascular condition of its internal texture—atrophy, with or without the vestiges of cicatrices—various colorations of its surface or substance—adhesions.

The above organic changes are frequently met with in fatal cases of dysentery—especially of what is called hepatic dysentery, to be hereafter described; and in bilious remittent fevers, or obstinate intermittents. Indeed the said changes are more frequently observed as complications than as simple diseases of the biliary apparatus.

In addition to the foregoing catalogue, there are other diseases affecting the gall-ducts—as collections of viscid and inspissated bile—or, biliary calculi. The latter, however, are comparatively rare in the ducts, though often found in the gall-bladder. These obstructions and concretions produce the same phenomena in hot, as in cold climates. Inflammation of the pancreas and duodenum often extends to the concave surface of the liver, producing jaundice, and the other phenomena of hepatitis, with additional pain in the region of the duodenum, proceeding from beneath the right scapula to the right hypochondrium, with a sense of dragging or drawing together of the parts in the neighbourhood. In such states, the opening of the ductus communis will be partially or totally obstructed, and jaundice will be the consequence. It is hardly necessary to say, that jaundice can only be viewed as a symptom of some disease of the liver, or of some mechanical obstruction to the issue of bile from that organ into the intestines. It is unnecessary to say any thing of the causes of chronic hepatitis, after what has been said of the etiology of acute hepatic inflammation, in a former article. Functional derangements, however, and a vitiated condition of the bile itself, by keeping up constant irritation in the bowels, and in the system generally, are no uncommon causes of actual inflammation, acute or chronic, in the biliary apparatus. Sub-acute inflammation of the liver, if taken in time, and judiciously treated, generally ends favourably—and when the termination is fatal, it is usually by the induction of organic disease in the liver or large bowels. We shall introduce the following case in illustration.

Case LXIII.—*Chronic Inflammation of the Liver, with Congestion and Secretion of*

Morbid Bile; Inflammation of the small and large Intestines supervening, and terminating the Life of the Patient.—Examination post Mortem. (*See Plate X.*)

"William Mac Lauren, aged 35, was admitted while encamped at Kurnool, 19th October. Is a debilitated man, from long residence in India, and from drinking the intoxicating liquors of the country. Had, a few months since, an attack of chronic hepatitis, with disorder of the bowels, from which he apparently recovered. Has been again complaining for some time of hepatic symptoms, and has now purging; passes blood by stool: great sickness at stomach, and bitter taste in his mouth; tongue foul.—Habeat haust. emet.

"*Vespere.*—He vomited a lumbricus; considerable debility.—℞ Aquæ ammon. ♏xx.; spirit. lavand. compos. ʒij.; aquæ puræ, ℥jss. Ft. haust. stat. sumend. Habeat hydrarg. submur. gr. xij. h. s.

"20th.—Pulse 80, and good; tongue foul and yellow; great thirst; stools bloody, mixed with mucus, and some fæces.—Habeat ol. ricini, ℥ij. Injiciatur enema purg. statim. Habeat mist. salin. ℥ij. secundâ quâque horâ.

"*Vespere.*—Pulse 90, more lanquid; tongue foul; thirst urgent; stools the same as in the morning.—Cont. mist. salin. Adhibeat scrob. cord. emplast. lyttæ. ℞ Hydr. submur. gr. xij.; pulv. antim. gr. iij.; opii, gr. ij.; syr. q. s. Ft. pilul. h. s. s. Injiciatur enema emolliens.

"21st.—Pulse the same as at last visit; tongue still foul; stools bloody.—℞ Ol. ricini, ℥jss.; aquæ. menth. pip. ℥ij. Ft. haust. stat. sum. Injiciatur enema. cum ipecac.

"*Vespere.*—Pulse 108; skin very moist; tongue foul and dry; stools watery, bloody, and mucous; great flatulence; no pain of the belly when pressed.—℞ Hydr. submur. ℈j.; opii, gr. ij.; syr. q. s. Ft. pilul. h. s. s. Injiciatur enema emolliens.

"22d.—Pulse 98, much weaker; skin agreeably moist; tongue still foul; stools liquid and bloody; some griping pain in the night; great prostration of strength.—Injiciatur enema emolliens. ℞ Acid. nitros. ʒij.; tinct. opii, ʒiij.; aquæ puræ, ℔ij. Fiat potus, cujus cyathum horis singulis sumat.

"*Vespere.*—Pulse frequent, and very feeble; tongue furred; thirst urgent; stools unaltered; tenesmus less severe; no pain.—Contin. pot. acid. heri præscriptus. Injiciatur enema, cum ipecac. Habeat haust. anodyn. h. s. Bibat. infus. tamarind.

"23d.—He has been very uneasy during the night, and has vomited a great deal; pulse imperceptible; skin cold, and exhaling an unpleasant odour; stools watery and bloody; no pain; he appears to be moribund.—℞ Tinct. opii, ♏xl.; spirit. æther. sulphur., aquæ ammon. utriusque, ♏xx.; aquæ puræ, ℥ij. Ft. haust. stat. sumend.

"*Vespere.*—No improvement of the symptoms.—Cont. med.

"24th.—The body exhales a strong cadaverous smell, and all the symptoms are worse.—Ponantur juxta lectum aceti acetabula vaporantis. He died at one o'clock.

"*Examination, two hours after Death.*—The liver was much enlarged, and of a blackish brown colour externally, and its right lobe rose high into the right thorax, and was of a spheroid form. Upon being divided, its vessels were greatly congested with blood, and its ducts with thick, dark-coloured, viscid bile. The internal structure of the liver was more than usually vascular, of a dark brick colour, and more condensed and more friable in its texture than natural. The gall-bladder contained some green-coloured bile. The ducts were unobstructed. The small and large intestines were inflamed throughout, and so much softened in their texture, and so easily lacerated, that the ilium and colon tore upon removing them for inspection. The mucous coat was detached from the subjacent texture in many places of the colon, and in others it was sphacelated. The other organs presented no marked derangement.

"*Remarks.*—We did not see this case until symptoms of gangrene of the bowels had supervened; otherwise, notwithstanding the circumstance of the worn-out system of the patient, and his inordinate addiction to spirits, depletions would have been practised. The time for their employment soon passed off; and after the 21st, his case admitted of no hopes from any treatment. The liver presented an appearance of disease very frequently met with as a consequence of chronic inflammations of the organ, (see plate X.;) and on that account the case is inserted in this place." 483.

The plate shows the morbid appearances above mentioned in a very striking manner.

ABSCESS OF THE LIVER.

This termination is very common in India, if active means are not early employed in the inflammatory stage—or, if the disease creeps on insidiously, and eludes attention. The sanguine and scrofulous habits are particularly prone to suppuration of the liver.

"It may with great justice be dreaded by the practitioner, when he finds, upon examination, considerable tumefaction of the organ accompanying the early stages of the disease;—and that it frequently supervenes to the insidious inflammation of the substance of the liver, which often accompanies, if it does not actually occasion, a particular variety of dysentery, and which, although not generally manifested by acute symptoms referrible to the region of this organ, is not the less active as respects its progress and termination. Indeed, in many instances, the practitioner of extensive practice in India, will find, when the early stage of inflammation of the liver is accompanied with much fever, a heavy aching pain, and great tumefaction in the region of the organ, that it is very difficult to prevent the supervention of suppuration even by the most prompt and copious depletions, and by the most active employment of mercurial remedies. It frequently happens, also, that considerable enlargement of the liver is observed as a sequela of active disease of the viscus, even although much decision may have been evinced in the treatment, and the most urgent symptoms have been subdued. But, in such cases, enlargement of the organ is the result of some degree of effusion of lymph in the interstices of the inflamed tissue, and denotes a similar state of parts to that marking the previous existence of inflammatory action in more superficial and more tangible glands." 518.

Some cases of hepatic abscess are given in detail by our author, as illustrations; and then he proceeds:—

"When acute attacks of hepatitis are not subdued by sufficiently decisive treatment in their early stages, they run rapidly into abscess. This consequence of the disease is chiefly to be dreaded when considerable enlargement of the viscus is found upon examination. If abscess actually be formed, and is seated in the convex part of the right lobe, the enlargement is evident over the whole hypochondriac region, the liver extending considerably below the ribs towards the umbilicus, and sometimes across the epigastrium to the left side. When the abscess is likely to point below the ribs, there are generally great tumefaction and increased heat of the surface of the part and its vicinity: frequently there is found a distinct enlargement, particularly in the more advanced progress of the abscess, immediately under the margin of the right ribs. If, however, abscess form on the superior surface of the liver, and point upon the diaphragm, although the enlargement of the organ will be very perceptible, yet there will seldom be felt any great increase of temperature on the surface of the hypochondrium. The abscess may point between the ribs; in this case, a bulging of the false ribs will be observed, and more than usual fulness of the intercostal spaces, and increased heat in this situation, with considerable enlargement, the liver being felt below the right hypochondriac region, in the epigastrium, and sometimes in the left hypochondrium. This enlargement may exist for a considerable time before matter forms; but in this case there will be no distinct tumour nor increase of heat: when the abscess has advanced considerably to maturity, the undefined enlargement and tumefaction become even diminished, and distinct tumour is more observable, according to the situation of the abscess and the direction which it may take.

"When the abscess is completely formed, and is seated in the superior and posterior part of the liver, the enlargement and tumefaction felt beneath the ribs, previous to, and during the formation of matter, become considerably diminished; but if it be in the inferior and anterior part of the organ, the enlargement becomes more and more reduced and circumscribed, until it assumes the character of a distinct tumour; and the pain, which was often considerable during the period of general enlargement or tumefaction, either altogether ceases, or is now but little felt. For further observations characterizing external pointing of abscess of the liver, we must refer our readers to the section on treatment of abscess, and on the operation for abscess when it points externally." 527.

The formation of hepatic abscess is not always revealed by unequivocal symptoms, particularly when it supervenes on chronic inflammation, and complicated with dysentery. In such cases the matter may form without a single symptom usually denoting abscess of an internal organ. The disease is so complicated with aguish feelings, that rigours or horripilations are fallacious phenomena. In general, however, minute inquiry will detect the existence of slight shudderings or formications, in the absence of unequivocal rigours.

"Sometimes an internal sense of throbbing and fluttering has been felt in the region of the liver, and has been followed by a broad, soft pulse, and night perspirations. The supervention of night perspirations, with a clamminess of the skin of the extremities, is one of the most certain signs of the formation of internal abscess which we possess; but even this ought not to be relied upon alone, but should be viewed always in connexion with the other symptoms characterizing the case. The next in importance are frequent cold sweats, but these are chiefly met with in the advanced stage of abscess. Frequent fainting sensations are deserving of considerable reliance on the part of the practitioner. There are also generally much anxiety and oppression at the precordia, and restlessness. If, during the treatment of hepatitis, we find it a matter of difficulty to affect the system with mercury, vascular depletions having been previously practised with the requisite decision, we may then dread the existence of abscess. Whether or no the mercurial remedies employed may act in such cases, owing to peculiarities of constitution or diathesis, in producing and accelerating the suppurative process, is a question not readily admitting of decision; but there can be no doubt that the system will not be brought under the full operation of mercury, or that ptyalism will not follow upon the most energetic employment of this substance, when abscess exists, although a slight tenderness of the gums will be produced by it. This circumstance has been proved to us on very many occasions.

"When abscess is formed, the tongue is seldom or ever of a natural appearance. At first it is sometimes white, and the papillæ raised or excited: it afterwards becomes of a dusky, brick-coloured redness, or what may be called a beef-steak tongue. At other times it is dry, coated, and of a brown tinge. In the more chronic cases, it is often smooth, chapped, lobulated, and apparently deprived of its papillæ. When great mischief is going on in the liver, without any acute symptoms, the tongue is often an excellent guide, and more to be depended upon than the pulse. In many of the less acute or chronic cases of abscess, the tongue has a peculiar white appearance, with the papillæ raised or excited: it is somewhat dry, but without any coating. This is what we have called an excited tongue, because we have considered it a sign of great vascular excitement going forward in internal structures; and we have often ordered depletions from this symptom alone, the tongue becoming natural as soon as a full depletion was performed. Hence we have considered that, when this state of tongue is observed, depletions may be directed more safely than upon the indication of any other symptom. Care should, however, be had not to confound this appearance with a white and moist condition of the tongue, or with a white, yellow, or brown crusted state of this part. The pulse at the commencement of the formation of matter, is generally soft and full, is subject to acceleration in the evening, and as the organic change advances, becomes more irritable, quick, and contracted. The stools are always much disordered through the progress of abscess of the liver: they are generally more or less frequent, are scanty, and usually consist of a greenish, watery fluid, with a greenish froth, or a green, slimy scum, floating on their surface. Frequently there are also straining and tenesmus; and some blood, with mucus, is occasionally voided. The calls to stool are also, in many cases, most frequent during the night. In hepatic disease, terminating in abscess, and complicated with dysentery, both the small and large intestines become diseased,—first functionally, and afterwards organically; and the patient generally dies of the organic change produced chiefly in the large intestines, frequently before the abscess makes it way, either externally or into any other organ. In many cases of hepatitis, complicated with dysentery, more particularly when the hepatitis presents a chronic character, the termination of the inflammation in abscess is accelerated, if it be not altogether produced, by the sudden arrest of the dysenteric disease. In many other cases, as we shall have to show more fully when hepatic dysentery comes before us, the hepatic disease is not apparent until the dysenteric symptoms are subdued; but although the disorder of the liver was not evident, or did not excite notice, while the bowel disease was urgent, we are not on that account to infer that it did not then exist. On the contrary, we believe that in most of the instances of this description the liver was the original seat of mischief, which only became more severe and more apparent when the consecutive disorder was abated." 530.

When the abscess is seated postericrly in the liver, and presses on the diaphragm, anxiety and præcordial oppression are urgent, with occasional dyspnœa or hiccup—when pointing towards the stomach, flatulence and vomiting are seldom absent. The easiest position is usually on the back--sometimes in the sitting posture. Pain is a very uncertain symptom. A pricking sensation is commonly felt where the abscess is pointing. The countenance is indicative of disease—it is sallow, sunk, the eye of a pearly hue—tongue white and excited—spirits depressed, sometimes even to melancholy--progressive emaciation --quickness of pulse in the evening--bowels either relaxed or costive—motions morbid, "and always deficient of healthy bile," resembling soft clay or putty, with a peculiar fetor. In such cases we may infer, that the mischief is not yet very extensive, but that it will be not the less serious in the end.

"When, on the other hand, the symptoms are more acute, when the constitutional derangements are great, the tongue dry and smooth, the fever very considerable, and the functions of the alimentary canal much disturbed, and signs of dysentery present, then immediate danger is to be apprehended." 531.

Abscess of the liver may wear out the constitution before it breaks externally or internally--generally through the medium of a bowel-complaint. The appearances on dissection are very various, not only as regards the situation and extent of the abscess, but the colour, consistence, &c. of the purulent formation. The state of the surrounding parenchymatous structure is also very various. These varieties we need not dwell upon. Neither can we afford space for any of the numerous cases which are detailed by the author.

TREATMENT OF CHRONIC HEPATIC INFLAMMATION.

In our second analytical article on Mr. Annesley's work* we took up the treatment of *acute* hepatitis, and, therefore, need not again go over that ground.

Mr. Annesley observes that, the chronic forms of hepatitis differ only from the more acute, in the duration of the disorder, "and in the texture of the organ, more generally the seat of the inflammatory action." In fact, he considers the division into acute and chronic as entirely arbitrary, and only to be adhered to as far as respects the "duration of disease." The therapeutical agents are ranged under the following heads.

I. *Vascular Depletion.*—Whether chronic hepatitis has resulted from the acute form, or been primary in itself, more or less vascular depletion will be necessary--chiefly local. The extent must be left to the judgment of the practitioner. The vigour of the patient's constitution, the fulness or pain in the side, the febrile action in the system, and the length of residence in a hot climate, will afford the necessary indications. There are few cases, however, where repeated, though moderate leechings will not be beneficial. After each leeching Mr. A. recommends a poultice to the side, and an aperient, consisting of calomel at night, and black draught in the morning. When the morbid action of the liver is lessened by these means, and the morbid secretions carried off, the calomel may be changed for a milder preparation, as blue-pill, or the hydrargyrum cum creta, with saline and antimonial aperients. Bowel-complaints are very common attendants on chronic hepatitis.

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* Vide Journal of Foreign Medicine, Vol. III.

"When such is the case, enemata, either of a purging or of an emollient nature, should be administered, and the pulvis ipecacuanhæ comp. given in combination with the blue-pill at bed-time, and be followed by a dose of castor oil in the morning. In many of these cases, much advantage will be derived from the use of a flannel bandage kept constantly applied round the abdomen; and the local depletions which have been practised may be followed by blisters on the epigastric or hypochondriac regions, and these by the nitro-muriatic wash, until a healthy state of the secretions be brought about." 627.

II. *Nitro-muriatic Solution.* After the removal of acute symptoms by the means already pointed out, Mr. Annesley strongly advocates the use of this remedy, which English practitioners have strangely neglected—or rather rejected, without cause. We are in the habit of prescribing it frequently—and we are as certain of its effects on the system, as we are of jalap or calomel. The following is Mr. A.'s formula for the solution.

"The nitro-muriatic solution, lotion, or bath, may be made in the following manner:—Into a common quart bottle put about eight ounces of pure water, to which add four ounces of the nitric acid, and four of the muriatic acid, of the strength of the London Pharmacopœia. The '*Nitro-muriatic Solution*' is thus formed, and the bottle containing it ought to be labelled accordingly. If it be intended to use this solution in the form of a bath, from two ounces of it to five, according to the strength of the patient, may be mixed with from two and a half to three gallons of warm water, of a temperature nearly approaching that of the blood, in a high and narrow vessel, and the feet and legs kept immersed in it for about twenty minutes or half an hour, every night before retiring to rest. If the bath does not occasion a pricking or itching sensation in the parts immersed, after twenty minutes have elapsed, the next bath should be increased in strength. Although we have frequently employed this bath, and generally with advantage, we prefer, in many respects, the practice of sponging the trunk of the body, particularly the abdomen, with the nitro-muriatic wash.

"When the nitro-muriatic solution is to be employed in the form of a wash, from two to three drachms of the *Solution*, prepared as just stated, should be added to a pint of warm water, and the trunk of the body, insides of the thighs, &c. assiduously sponged with it, by means of a large sponge, for about a quarter of an hour daily, or, occasionally, night and morning. We have found great advantage from employing this solution also in the form of poultice, in torpor of the liver and in chronic affections of the organ, attended with enlargement, and a deficient and morbid state of the biliary secretion. Occasionally much benefit will arise from employing this wash in the form of fomentation; the water having been made as hot as 130° or 140° of Fahrenheit, when the acid solution is added. When this is practised, the flannels soaked with the wash should be applied for an hour or two every night. It may be employed, also, with advantage by keeping cloths wet with the solution over the hypochondria and abdomen, and placing over them warm poultices; both the moistened cloths and the poultices being renewed from time to time." 628.

Mr. A. assures us, and we believe him, that he has seen the most decided advantages result from this remedy in chronic hepatitis, "and, indeed, in all functional disorders of the liver." In the more chronic forms of disease of the liver, he observes, particularly where the structure is enlarged, and the biliary and intestinal secretions vitiated, "I consider it one of the most valuable remedies we possess." It should be continued two, three, or four weeks, unless it fulfils the intention before that time. It would almost appear that this remedy has been rejected by English practitioners in consequence of that devouring rage for POLYPHARMACY, which is at once the bane and disgrace of British medicine! When the day arrives (and arrive it must) that will award the remuneration for skill and attendance instead of drugs, then will the *external* remedies be more employed —and the nitro-muriatic solution again come into favour. Mr. A. cautions us against the employment of mercurials during the use of the solution; but recommends purgatives to carry of diseased secretions.

"We have frequently observed, after it has been employed for a few days, that the patient has complained much of heaviness or drowsiness. When this is the case, active purgation should be instituted, in addition to the use of the solution, which will soon bring away morbid and offensive stools, and remove this symptom of disorder." 629.

Change of air, or a sea voyage, will often materially assist the salutary operation of the acid bath.

III. *Nitrous Acid.* This medicine has been a good deal employed internally, as an alterative, in hepatic diseases. As much as six drachms of the diluted nitric acid, in a large quantity of barley or rice water, may be taken in 24 hours. In the course of a few days it induces a slight salivation; but its beneficial effects are often observed from smaller doses, and without the salivary excitation. This medicine requires a longer administration than mercury, in order to insure its full operation. There is no incompatibility in the use of this medicine with mercury. Indeed, it is the opinion of Sir James M'Grigor, as well as of our author, that the conjoined administration of both, is superior to that of either singly.

To attempt to impregnate the system with mercury, in the active forms of hepatitis, or in many cases of the chronic form, before the inflammatory action is, to a certain extent, subdued, leads, Mr. A. thinks, to want of success—nay, to positive injury. These objections do not apply to the nitrous acid, or to the nitro-muriatic bath; for, although these last are more serviceable after antiphlogistic measures have been employed, their premature use is not attended with any detriment.

IV. *Blisters, Setons, &c.* Blisters, of course, are not to be employed in the more acute forms till after depletion, on the same principle as in pneumonia, or any other internal inflammation. Afterwards they are salutary. In the more chronic and protracted cases, the drain of a seton or issue is more effectual. After a discharge has been established, Mr. A. recommends poultices to the part. We are a little surprised that Mr. A. does not mention the counter-irritation and purulent discharge produced by tartrite of antimony, an application extremely beneficial, and capable of being repeated from time to time without the constant inconvenience and pain of a seton. Tartar-emetic plaster is much superior to the ointment.

V. *Tepid and Vapour Baths.* These are serviceable in the course of the disease, whether in the active or chronic forms. In the *latter*, they should be followed by frictions, either with a coarse towel or flesh-brush, over the region of the liver, and, indeed, over the abdomen generally. The sulphur and chlorine baths are still more serviceable.

VI. *Eccoprotics.* "In the more chronic cases of hepatic disease, in addition to the external means already recommended, and particularly after local depletions have been resorted to whenever pain or uneasiness in the region of the liver manifested itself, a gentle aperient pill should be taken at bed-time, and saline laxatives through the day. The best pill which we can recommend for this purpose is that composed of the aloes and myrrh pill and blue pill, or the following:—℞. Hydr. submur. ℈j.; extract. colocynth. comp. ℈ij.; antim. tartar. gr. j.; pulv. ipecac. gr. jv.; sapon. Castil. gr. x.; ol. car. q. s. M. ft. pilul. xviij. Two of these will generally be found to operate sufficiently, and may be taken every night at bed-time, or every other night. In the majority of cases, however, one of them will prove sufficient, particularly when it is intended to continue the use of them for a considerable time, and when saline or other laxatives are also required through the day. Where the chronic disease of the liver is attended with enlargement, it will generally be found requisite to prescribe the above pills every night, the nitro-muriatic wash being employed externally night and morning; and a weak solution of the sulphates of soda, magnesia, and potash, either singly or combined, may be given in the morning, and, if necessary, again at mid-day, in order to keep up a gentle action in the large secreting viscera and bowels. If, however, a weak solution of these salts should occasion frequent and watery motions, with tenesmus, they may be changed for the solution of cream of tartar in tamarind water, or for the solution of the soda tartarizata, or the tartras potassæ. On many occasions, the factitious Cheltenham or Harrowgate salts may be given with advantage; and the Seidlitz powders may also be taken occasionally. Much benefit will generally accrue from changing, after a few days, the saline substances prescribed, particularly if the exhibition of the eccoprotic pill at bed-time, and the salts through the day, produce any degree of tenesmus. The cream of tartar solution may, however, be given and continued for a longer time, without any risk of inducing this effect. If tenesmus occur, an emollient enema will always afford relief, and the medicines may be intermitted for a day or two." 635.

From considerable experience in this class of complaints, we would suggest a modification of the above eccoprotic pill, which we have found to be an improvement. We would substitute the pilula hydrargyri for the calomel, and we would double the quantity of the tartrite of antimony. As there is often much irritation prevailing in the bowels, and in the system generally, three grains or four of extract of hyosciamus at bed-time, will be found a very useful adjuvant.

VII. *Bitters, Tonics, &c.* The continued operation of deobstruents—the defective nutrition—the impaired digestion—the irritative fever which more or less obtains—all these tend to produce great languor, debility, and irritability, in the hepatic invalid. On these accounts, it is very generally necessary to combine bitters or even tonics with the alterative or deobstruent remedies, in order to support the strength and improve the digestive and assimilative processes. The infusions of calumba, gentian, chamomile, with some tincture of the same, and soda, are the usual forms of bitter medicines—to which is to be added the taraxacum. We are very much surprised that this remedy does not enter into the catalogue which Mr. Annesley has laid before his readers. As his experience has been almost entirely confined to India, where the taraxacum is little used, Mr. A. probably is practically unacquainted with its effects. But the more it is employed, the more certain proofs will it afford of its utility. The aperient and diuretic qualities of this root are unquestionable. The following will be found a very convenient, and not an unpleasant formula.

℞. Decocti taraxaci. ℥iv. Carb. sodæ, ʒj. Extr. taraxac. ʒij. Tinct. gent. c. ʒij. Misce dat mistura, capiat coch. ij. vel. iij. mag. bis fiie.

Although tonics are precarious medicines, and can rarely be given while any inflammatory action is going on in any of the chylopoietic organs, yet a period sooner or later arrives when they become necessary, and are then highly beneficial. They should be preceded by bitters, and their doses should be very small at the beginning. It is by giving too much for a dose, or too many doses in the day—or by exhibiting the tonic at an improper time, that mischief is done. Thus many people will derive advantage from half a grain of sulphate of quinine in a drachm of compound tincture of gentian taken *directly after dinner*, whose stomachs would be irritated or too much excited by the same dose, an hour before dinner, or two or three times in the day. But the unfortunate mode of medical remuneration in this country, destroys very often the efficacy of a medicine by the manner in which it is obliged to be administered.

Mr. Annesley has evidently a *hobby* in the shape of purgation. In India, where the biliary apparatus is goaded to inordinate and morbid secretion, by the heat of the climate, and the stimulation of diet and drink, purgation is necessary, even to the amount prescribed by our author. But in this country, where the liver is generally torpid, and the stomach and bowels irritable, the drastic purgation recommended by Mr. Annesley, would be found a very inconvenient, if not a detrimental practice. The diet and regimen of an hepatic patient require peculiar attention—more than we can speak of in this place. Mr. Annesley has touched very lightly on this important subject—and he seems to have entirely overlooked the salutary effects of TRAVELLING in diseases and disorders of the biliary and chylopoietic organs. This item would often do more for the Indian invalid than the "purging discipline" (to use a favourite expression of Mr. Annesley) which is so strenuously recommended in the great work under review. But we must now bring this article to a close. We shall take up another subject, in the course of our next number, and pursue our analysis till we exhibit a complete view of these two costly and highly valuable volumes.

Medical and Philosophical Intelligence.

Description of the Rudiments of a Fœtus, extracted from the Testicles of a child seven months old. By Dr. WENDT, of Breslau. In the neighbourhood of Glogau, in Silesia, the wife of a labourer was in December, 1827, delivered of a healthy male child, which during six months enjoyed good health; but having after this period been affected with dysuria, was found to have a hard swelling of the left testicle, and congenital phymosis. The latter having been removed by the operation, the testicle rapidly increased in size, so that the scrotum at last hung down to the knees; the tumour had an uneven surface, was very hard, and tender on pressure, and as it continued to grow, was on the 9th of July removed. The ligature came away on the 12th, and the wound was completely healed by the beginning of August.

The extirpated testicle was four inches and a quarter in length, and two and a quarter in diameter; it weighed seven ounces, and its parenchyma was infiltrated with a greasy, ichorous matter, of a yellow colour. No trace of the epididymis could be found. The tunica vaginalis being opened, a solid oblong body was exposed, and on a closer inspection, found to be a thigh bone, without its periosteum, one inch and a half in length; in the circumjacent tissue, the rudiments of several other bones were found, which on a more accurate examination proved to be the pelvis of a fœtus at the fourth month; the os coccygis was very much curved; the sacrum terminated in a ligamentous mass, which appeared to represent the rudiments of the lumbar vertebræ. The head of the right thigh-bone was much compressed, without any trace of the neck, although two prominences, resembling the trochanters, were visible; its lower end terminated in two tuberosities, representing the internal and external condyles. The left os pubis and the ischium were totally wanting; the ilium, which was well formed, had attached to its semicircular line the left thigh bone, which was only three-fourths of an inch in length, and its lower extremity bent backwards; the tibia were almost entirely cartilaginous, and were separated by a very thick inter-osseous ligament; the foot was represented by a confused cartilaginous mass, without any distinct traces of toes. No other rudiments of any fœtal organs could be found in the testicle, the substance of which was not in a morbid state, except from mechanical pressure. The child from which it had been removed was, five years after the operation, in the enjoyment of excellent health.—*Bull. des Sc. Méd.*

Delivery of a Fœtus through the Abdominal parietes. (*Magazin für dié gesammte Heilkunde*, 1828, xxviii. i. 157.)—A female, thirty-three years of age, feeble in constitution, and of middle stature, in the advanced stage of her first pregnancy, fell from the height of a story on a stair. After recovering from the fainting fit, which was the cause of her fall, she felt violent pain in the lower belly, and had considerable uterine hemorrhage. These affections were removed by antiphlogistic treatment; but left her in a state of extreme debility. Four weeks after the accident she was seized with severe contracting pains like those of labour; and on manual examination, it was found that the *os uteri* was puffy and open. The apparent labour, however, did not make any progress. There was at the same time a copious discharge of sanguinolent mucus, constant sickness, extreme prostration of strength, hurried pulse, general paleness, and uninterrupted perspiration. The patient had never observed any movement of the fœtus after she met with the fall. Several days having been passed in these unfavourable circumstances, an inflammatory tumour suddenly appeared in the region of the umbilicus, accompanied with most acute pain and an intolerable sense of burning. The passages continued moist, but the *os uteri* did not increase in openness. Seven days after the false labour-pains appeared, the tumour opened and discharged a moderate quantity of fetid pus. In the course of the same day, when the aperture had attained the diameter of an inch, the hip of a fœtus presented itself. This was in so advanced a state of putridity, that it was easily separated from the body; but it was with difficulty extracted from the opening. The thigh and foot followed, and after them the chest, of which the ribs, sternum, and clavicles, were successively removed with a pair of lithotomy forceps. The arms were next extracted, then the bones of the head, after being broken down with the crotchet; and, in short, every bone of the fœtus was withdrawn from the same opening. A slimy membrane, and a light, spongy, cheesy mass, in small portions of various sizes, consisting evidently of the placenta and membranes, were in the last place separated. During the progress of this extraordinary delivery, which lasted two hours, the uterus contracted occasionally with considerable force. The patient suffered much from the irritable state of the abdominal aperture. The sore was dressed with dry lint, after an injection had been used of tepid-water and chamomile infusion, *which passed through the vagina.* The lochial discharge flowed partly through the natural passage, and partly through the aperture in the abdomen. Under the use of generous diet, the patient, notwithstanding her unpropitious condition, gradually recovered. The discharge, which had at first and for some time an insupportable stench, gradually lost its odour; the wound in nine days had closed so far as only to admit a quill; and the secretion of milk receded. The patient's appetite and sleep continuing good, and her mind calm and cheerful, her farther recovery proceeded with rapidity. In six weeks the opening was healed up altogether, and she was able to resume her household occupations in her usual state of health. —Dr. Müller, to whom this singular case occurred, has appended a few remarks on its nature, and endeavours to establish that it was not an instance of extra-uterine gestation, but of ordinary pregnancy; that the accident must have excited inflammation and suppuration of the anterior surface of the uterus; that this disorder passed by continuity of surface to the abdominal parietes, and gave occasion to the false passage. This certainly appears the only rational account that can be given of the progress of the case. The complete recovery of the patient in such disastrous circumstances is certainly, as the author observes, a most extraordinary instance of the restorative powers of life. "Nature, too, has her Cæsarean operation!"—*Ed. Med. and Surg. Journal.*

Cases of Emphysema of the Intestinal Canal.—The patient, a woman, thirty years of age, of strong constitution, who had been employed in grinding colours, was admitted into la Pitié, to which she had come on foot, complaining of slight colic pains, with some degree of constipation; for some time she had been subject to frequent vomitings of bilious matter; there was no tension, nor pain in the abdomen increased on pressure, and the tongue gave no indication of disease. The lightness of her symptoms seemed to require no active measures, and an emollient treatment was adopted. She complained also, of pain in her loins and hips, which induced the suspicion of uterine disease, and an examination was proposed, when she was attacked on the third day of her admission, with very acute pain in the abdomen; the trunk was bent backwards, and the whole body thrown into a state of agitation; she died in a few hours, preserving her intelligence to the last.

On dissection, the mucous membrane of the stomach and small intestines, and the corresponding portions of the peritoneum, were found unequally elevated, forming embossed tumours, without redness, transparent, slightly crepitating when pressed by the finger, and containing gas, which could with difficulty be made to change its place; when cut into, they did not collapse completely, unless pressure was applied. Some rose-coloured arborizations were observed on the small intestines. The liver was greenish and soft. The contents of the thorax were sound; in the cerebro-spinal system, posteriorly, between the dura mater and the vertebræ, there was a recent extravasation of coagulated blood, extending from the fourth cervical, to the fifth dorsal vertebra.

Case II. A labourer, aged 52 years, entered la Pitié, in August last, with a severe quotidian fever, which had continued for eight days. On his admission, there were some symptoms of gastric derangement, such as anorexia, bitter taste in the mouth, furred tongue, but no fever. Fifteen grains of ipecacuanha were directed, which was speedily followed by vomitings, and faintings; the patient soon recovered his senses, but was in a state of such agitation, that he was with difficulty prevented from falling from his bed. He died the next morning.

On dissection, the stomach alone was found diseased; the mucous membrane of this organ, particularly towards its smaller extremity, was elevated by gas into an embossed, irregular, and transparent tumour, which crepitated slightly when pressed; when an incision was made into it, it did not empty itself completely, unless upon pressure or immersion in water. There was no morbid redness of the intestinal canal.—*La Lancette Française.*

Employment of Morphine as a corrective of Iodine.—M. Pelletan has recently published an interesting case which seems to prove, that morphine is the best method of obviating the inconveniences which result from the preparations of iodine. He was in attendance upon a woman from whom his father, several years previously, had removed a large scirrhous tumour from the breast. The disease returning, iodine was employed externally, but having been productive of some very unpleasant symptoms, the acetate of morphine was added, in the proportion of eight grains to six grains of the proto-iduret of mercury; and one ounce of axunge frictions with this ointment, for the space of three months, effected a complete resolution of the gland, and also removed a considerable engorgement of the uterus; which supervened about the termination of the first disease.—*Gazette de Santé.*

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